herbs

A QUICK GUIDE TO HERBAL SUPPLEMENTS

at a glance

U.S. DEPARTMENT OF HEALTH
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National Institutes of Health

National Center for Complementary
and Alternative Medicine

AUTHENTICATED
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herbs at a glance:

AN INTRODUCTION

Many people take herbal supplements to boost their immune systems, treat allergy symptoms, prevent a cold—all in an effort to be well and stay healthy. There are hundreds of herbal supplements available in the grocery store or pharmacy or for sale on the Internet. And, there are many claims about their health benefits. How can a consumer decide what's safe or effective?

This booklet will give you a basic understanding of some of the most common herbs in popular dietary supplements—their historical uses, what they're used for now, the scientific evidence on their effectiveness, and side effects or cautions for you to consider.

To manage your health, you need to be an informed consumer. Learn about herbal supplements and talk with your health care providers about everything you are doing to stay well.

Herbs as Medicine—Now and Then

In the United States, nearly 1 in 5 adults—or over 38 million people—reported using a natural product, such as herbs, for health purposes in a 2007 survey. Among the top 10 natural products used were several botanicals covered in this booklet: echinacea, flaxseed, ginseng, ginkgo, and garlic.

People have used herbs as medicine since ancient times. For example, aloe vera's use can be traced back to early Egypt, where the plant was depicted on stone carvings. Known as the "plant of immortality," it was presented as a burial gift to deceased pharaohs. Lavender, native to the Mediterranean region, was used in ancient Egypt as part of the process for mummifying bodies. Chasteberry, the fruit of the chaste tree, has long been used by women to ease menstrual problems and to stimulate the production of breast milk. Cat's claw, which grows wild in Central and South America, especially in the Amazon rainforest, has been used for centuries to prevent and treat disease. Hoodia, a flowering, cactus-like plant native to the Kalahari Desert in southern Africa, has been used by the Kalahari Bushmen to reduce hunger and thirst during long hunts.

Herbs still play a part in the health practices of many countries and cultures. Ayurvedic medicine, which originated in India, uses herbs, plants, oils, common spices (such as ginger and turmeric), and other naturally occurring substances. Traditional Chinese medicine uses herbs such as astragalus, bitter orange, and ginkgo for various health conditions. Herbs are also an important part of Native American healing traditions. Dandelion and goldenseal are examples of herbs used by Native Americans for different health conditions.

What are herbs?

An herb (also called a botanical) is a plant or plant part used for its scent, flavor, and/or therapeutic properties. An herbal supplement is a type of dietary supplement that contains herbs, either alone or in mixtures.

Did you know that some of our medicines are derived from plants and trees?

Drug Name	Plant/Tree
Digitalis (heart drug)	Foxglove plant
Paclitaxel (cancer drug)	Pacific yew tree
Aspirin	Willow tree
Quinine (malaria drug)	Cinchona tree
Morphine	Opium poppy
Galantamine (Alzheimer's drug)	Daffodil bulbs
Vincristine (cancer drug)	Rosy periwinkle
Reserpine (blood pressure drug)	Indian snakeroot plant

NCCAM's Research on Herbs

While millions of Americans use herbal supplements, much remains to be learned about their safety and effectiveness. The National Center for Complementary and Alternative Medicine (NCCAM) at the National Institutes of Health is the Federal Government's lead agency for studying all types of complementary and

alternative medicine, including herbal supplements. This research covers a wide range of studies—from laboratory-based research studying how herbs might affect the body, to large clinical trials testing their use in people, such as studying ginkgo's effects on memory in older adults, or whether St. John's wort may help people with minor depression. Exploring how and why botanicals act in the body is an important step in evaluating their safety and effectiveness.

herbal supplements:

A WORD ABOUT SAFETY

Although herbs have been used for thousands of years as natural medicines, natural does not always mean safe. Herbs can act in your body in ways similar to prescription drugs, and herbs may have side effects. They may also affect how your body responds to prescription drugs or over-the-counter medicines you take—possibly decreasing or increasing their effects.

How are herbal supplements regulated?

The U.S. Food and Drug Administration (FDA) regulates herbal and other dietary supplements differently from conventional medicines. The standards of safety and effectiveness that prescription and over-the-counter medicines have to meet before they are marketed do not apply to supplements. The standards for supplements are found in the Dietary Supplement Health and Education Act (DSHEA), a Federal law that defines dietary supplements and sets product-labeling standards and health claim limits. To learn more about DSHEA, visit the FDA Web site at www.fda.gov/RegulatoryInformation/Legislation/.

Use Caution

If you are considering or using an herbal supplement, think about these points:

- Some herbal supplements are known to interact with medicines (both prescription and over-the-counter). For example, St. John's wort can interact with birth control pills.
- Research has shown that what's listed on the label of an herbal supplement may not be what's in the bottle. You may be getting less—or more—of an ingredient than the label indicates, even if it uses the word "standardized" or "certified." Many factors, including manufacturing and storage methods, can affect the contents of an herbal product.
- Some herbal supplements have been found to be contaminated with metals, unlabeled prescription drugs, microorganisms, or other substances.
- If you use herbal supplements, it is best to do so under the guidance of a medical professional who has been properly trained in herbal medicine. This is especially important for herbs that are part of a whole medical system, such as traditional Chinese medicine or Ayurvedic medicine.
- Women who are pregnant or nursing should be especially cautious about using herbal supplements. This caution also applies to giving children herbal supplements.

Talk to Your Health Care Providers

Be an informed consumer. Tell **all** of your health care providers about any herbs or supplements you are using or considering.

Your health care providers need a full picture of everything you do to manage your health, including all complementary and alternative medicine practices. This will help ensure coordinated and safe care. It is especially important if you are taking any prescription or over-the-counter medications that could interact with an herbal supplement.

For tips about talking with your health care providers about CAM, see NCCAM's Time to Talk campaign at nccam.nih.gov/timetotalk/.

This booklet is not designed to be a comprehensive source of information about these specific herbs. NCCAM has provided this material for your information. It is not intended to substitute for the medical expertise and advice of your primary health care provider. We encourage you to discuss any decisions about treatment or care with your health care provider. The mention of any product, service, or therapy is not an endorsement by NCCAM.

Information about the safety and effectiveness of herbal supplements can change as new research results are reported. To check for recent updates, please visit the Herbs at a Glance series online at nccam.nih.gov/health/herbsataglance.htm.

aloe vera

Aloe vera's use can be traced back 6,000 years to early Egypt, where the plant was depicted on stone carvings. Known as the "plant of immortality," aloe was presented as a burial gift to deceased pharaohs.

Common Names

aloe vera, aloe, burn plant, lily of the desert, elephant's gall

Latin Names

Aloe vera, Aloe barbadensis

What It Is Used For

- Traditionally, aloe was used topically to heal wounds and for various skin conditions, and orally as a laxative.
- Today, in addition to traditional uses, people take aloe orally to treat a variety of conditions, including diabetes, asthma, epilepsy, and osteoarthritis. People use aloe topically for osteoarthritis, burns, sunburns, and psoriasis.
- Aloe vera gel can be found in hundreds of skin products, including lotions and sunblocks.
- The FDA has approved aloe vera as a natural food flavoring.

How It Is Used

- Aloe leaves contain a clear gel that is often used as a topical ointment.
- The green part of the leaf that surrounds the gel can be used to produce a juice or a dried substance (called latex) that is taken by mouth.

What the Science Says

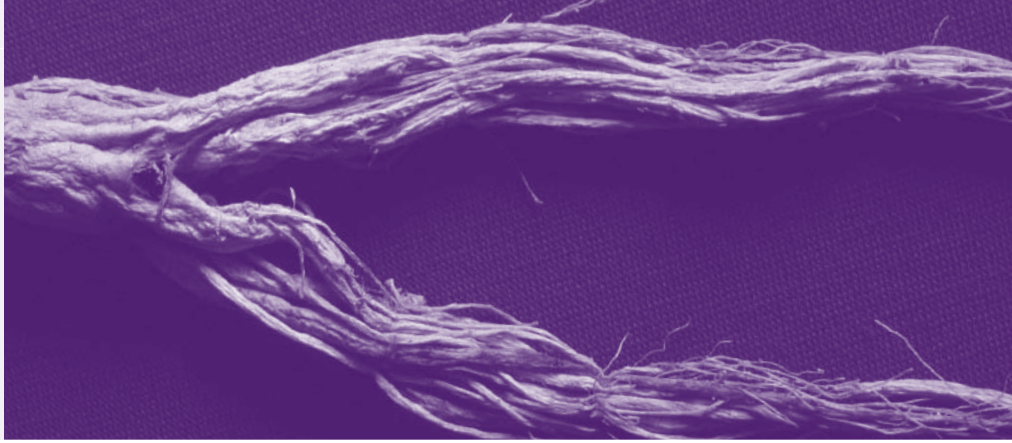
- Aloe latex contains strong laxative compounds. Products made with various components of aloe (aloin, aloe-emodin, and barbaloin) were at one time regulated by the FDA as oral over-the-counter (OTC) laxatives. In 2002, the FDA required that all OTC aloe laxative products be removed from the U.S. market or reformulated because the companies that manufactured them did not provide the necessary safety data.
- Early studies show that topical aloe gel may help heal burns and abrasions. One study, however, showed that aloe gel inhibits healing of deep surgical wounds. Aloe gel has not been shown to prevent burns from radiation therapy.
- There is not enough scientific evidence to support aloe vera for any of its other uses.

Side Effects and Cautions

- Use of topical aloe vera is not associated with significant side effects.
- Abdominal cramps and diarrhea have been reported with oral use of aloe vera.
- Diarrhea, caused by the laxative effect of oral aloe vera, can decrease the absorption of many drugs.
- People with diabetes who use glucose-lowering medication should be cautious if also taking aloe by mouth because preliminary studies suggest aloe may lower blood glucose levels.
- There have been a few case reports of acute hepatitis from aloe vera taken orally. However, the evidence is not definitive and the safety of aloe has not been systematically studied.

asian ginseng

Asian ginseng is native to China and Korea and has been used in various systems of medicine for many centuries. Asian ginseng is one of several types of true ginseng (another is American ginseng, *Panax quinquefolius*). An herb called Siberian ginseng or eleuthero (*Eleutherococcus senticosus*) is not a true ginseng.



Common Names

Asian ginseng, ginseng, Chinese ginseng, Korean ginseng, Asiatic ginseng

Latin Name

Panax ginseng

What It Is Used For

Treatment claims for Asian ginseng are numerous and include the use of the herb to support overall health and boost the immune system. Traditional and modern uses of ginseng include:

- Improving the health of people recovering from illness
- Increasing a sense of well-being and stamina, and improving both mental and physical performance
- Treating erectile dysfunction, hepatitis C, and symptoms related to menopause
- Lowering blood glucose and controlling blood pressure.

How It Is Used

The root of Asian ginseng contains active chemical components called ginsenosides (or panaxosides) that are thought to be responsible for the herb's medicinal properties. The root is dried and used to make tablets or capsules, extracts, and teas, as well as creams or other preparations for external use.

What the Science Says

- Some studies have shown that Asian ginseng may lower blood glucose. Other studies indicate possible beneficial effects on immune function.
- Although Asian ginseng has been widely studied for a variety of uses, research results to date do not conclusively support health claims associated with the herb. Only a few large, high-quality clinical trials have been conducted. Most evidence is preliminary—i.e., based on laboratory research or small clinical trials.
- NCCAM supports studies to better understand the use of Asian ginseng. Areas of recent NCCAM-funded research include the herb's potential role in treating insulin resistance, cancer, and Alzheimer's disease.

Side Effects and Cautions

- Short-term use of ginseng at recommended doses appears to be safe for most people. Some sources suggest that prolonged use might cause side effects.
- The most common side effects are headaches and sleep and gastrointestinal problems.
- Asian ginseng can cause allergic reactions.
- There have been reports of breast tenderness, menstrual irregularities, and high blood pressure associated with Asian ginseng products, but these products' components were not analyzed, so effects may have been due to another herb or drug in the product.
- Asian ginseng may lower levels of blood sugar; this effect may be seen more in people with diabetes. Therefore, people with diabetes should use extra caution with Asian ginseng, especially if they are using medicines to lower blood sugar or taking other herbs, such as bitter melon and fenugreek, that are also thought to lower blood sugar.

astragalus

Native to China, astragalus has been used for centuries in traditional Chinese medicine. In the United States, the herb gained popularity in the 1980s. There are actually over 2,000 species of astragalus; however, the two related species *Astragalus membranaceus* and *Astragalus mongholicus* are the ones primarily used for health purposes.

Common Names

astragalus, bei qi, huang qi, ogi, hwanggi, milk vetch

Latin Names

Astragalus membranaceus, Astragalus mongholicus

What It Is Used For

- Historically, astragalus has been used in traditional Chinese medicine, usually in combination with other herbs, to support and enhance the immune system. It is still widely used in China for chronic hepatitis and as an adjunctive therapy in cancer.
- It is also used to prevent and treat common colds and upper respiratory infections.
- Astragalus has also been used for heart disease.

How It Is Used

The root of the astragalus plant is typically used in soups, teas, extracts, or capsules. Astragalus is generally used with other herbs, such as ginseng, angelica, and licorice.

What the Science Says

- The evidence for using astragalus for any health condition is limited. High-quality clinical trials (studies in people) are generally lacking. There is some preliminary evidence to suggest that astragalus, either alone or in combination with other herbs, may have potential benefits for the immune system, heart, and liver, and as an adjunctive therapy for cancer.
- NCCAM-funded investigators are studying the effects of astragalus on the body, particularly on the immune system.

Side Effects and Cautions

- Astragalus is considered safe for most adults. Its possible side effects are not well known because astragalus is generally used in combination with other herbs.
- Astragalus may interact with medications that suppress the immune system, such as the drug cyclophosphamide taken by cancer patients and similar drugs taken by organ transplant recipients. It may also affect blood sugar levels and blood pressure.
- People should be aware that some astragalus species, usually not found in dietary supplements used by humans, can be toxic. For example, several species that grow in the United States contain the neurotoxin swainsonine and have caused "locoweed" poisoning in animals. Other species contain potentially toxic levels of selenium.

bilberry

Bilberry is a relative of the blueberry, and its fruit is commonly used to make pies and jams. It has been used for nearly 1,000 years in traditional European medicine. Bilberry grows in North America, Europe, and northern Asia.

Common Names

bilberry, European blueberry, whortleberry, huckleberry

Latin Name

Vaccinium myrtillus

What It Is Used For

- Historically, bilberry fruit was used to treat diarrhea, scurvy, and other conditions.
- Today, the fruit is used to treat diarrhea, menstrual cramps, eye problems, varicose veins, venous insufficiency (a condition in which the veins do not efficiently return blood from the legs to the heart), and other circulatory problems.
- Bilberry leaf is used for entirely different conditions, including diabetes.

How It Is Used

The fruit of the bilberry plant can be eaten or made into extracts. Similarly, the leaves of the bilberry plant can be made into extracts or used to make teas.

What the Science Says

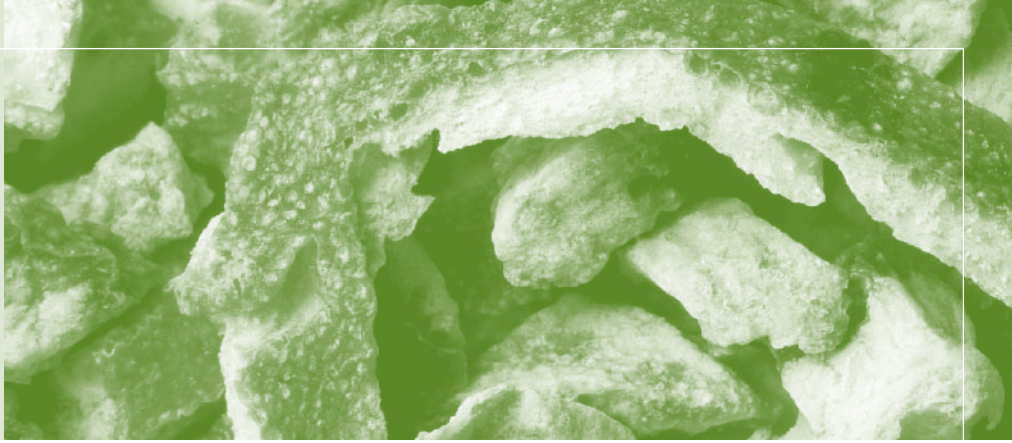
- Some claim that bilberry fruit improves night vision, but clinical studies have not shown this to be true.
- There is not enough scientific evidence to support the use of bilberry fruit or leaf for any health conditions.

Side Effects and Cautions

- Bilberry fruit is considered safe when consumed in amounts typically found in foods, or as an extract in recommended doses for brief periods of time. Long-term safety and side effects have not been extensively studied.
- High doses or extended use of bilberry leaf or leaf extract are considered unsafe due to possible toxic side effects.

bitter orange

The bitter orange tree is native to eastern Africa and tropical Asia. Today, it is grown throughout the Mediterranean region and elsewhere, including California and Florida. Bitter orange oil is used in foods, cosmetics, and aromatherapy products. Bitter orange oil from the tree's leaves is called petitgrain, and oil from the flowers is called neroli.



Common Names

bitter orange, Seville orange, sour orange, Zhi shi

Latin Name

Citrus aurantium

What It Is Used For

- Bitter orange has been used in traditional Chinese medicine and by indigenous people of the Amazon rainforest for nausea, indigestion, and constipation.
- Current uses of bitter orange are for heartburn, loss of appetite, nasal congestion, and weight loss. It is also applied to the skin for fungal infections such as ringworm and athlete's foot.

How It Is Used

The dried fruit and peel (and sometimes flowers and leaves) are taken by mouth in extracts, tablets, and capsules. Bitter orange oil can be applied to the skin.

What the Science Says

- There is not enough scientific evidence to support the use of bitter orange for health purposes.
- Many herbal weight-loss products now use concentrated extracts of bitter orange peel in place of ephedra. However, bitter orange contains the chemical synephrine, which is similar to the main chemical in ephedra. The FDA banned ephedra because it raises blood pressure and is linked to heart attacks and strokes; it is unclear whether bitter orange has similar effects. There is currently little evidence that bitter orange is safer to use than ephedra.

Side Effects and Cautions

- Because bitter orange contains chemicals that may speed up the heart rate and raise blood pressure, it may not be safe to use as a dietary supplement. There have been reports of fainting, heart attack, and stroke in healthy people after taking bitter orange supplements alone or combined with caffeine. People should avoid taking bitter orange supplements if they have a heart condition or high blood pressure, or if they are taking medications (such as MAO inhibitors), caffeine, or other herbs/supplements that speed up the heart rate.
- Due to lack of safety evidence, pregnant women or nursing mothers should avoid products that contain bitter orange.
- Bitter orange oil used on the skin may increase the risk of sunburn, particularly in light-skinned people.

black cohosh

Black cohosh, a member of the buttercup family, is a plant native to North America. It was used in Native American medicine and was a home remedy in 19th-century America.

What It Is Used For

- Black cohosh has a history of use for rheumatism (arthritis and muscle pain) but has been used more recently to treat hot flashes, night sweats, vaginal dryness, and other symptoms that can occur during menopause.
- Black cohosh has also been used for menstrual irregularities and premenstrual syndrome, and to induce labor.

How It Is Used

The underground stems and roots of black cohosh are commonly used fresh or dried to make strong teas (infusions), capsules, solid extracts used in pills, or liquid extracts (tinctures).

What the Science Says

- Study results are mixed on whether black cohosh effectively relieves menopausal symptoms. An NCCAM-funded study found that black cohosh, whether used alone or with other botanicals, failed to relieve hot flashes and night sweats in postmenopausal women or those approaching menopause.
- Most studies to date have been less than 6 months long, so the safety of long-term use is uncertain.
- NCCAM is funding studies to further understand the potential effects of black cohosh on hot flashes and other menopausal symptoms.
- There are not enough reliable data to determine whether black cohosh is effective for rheumatism or other uses.

Common Names

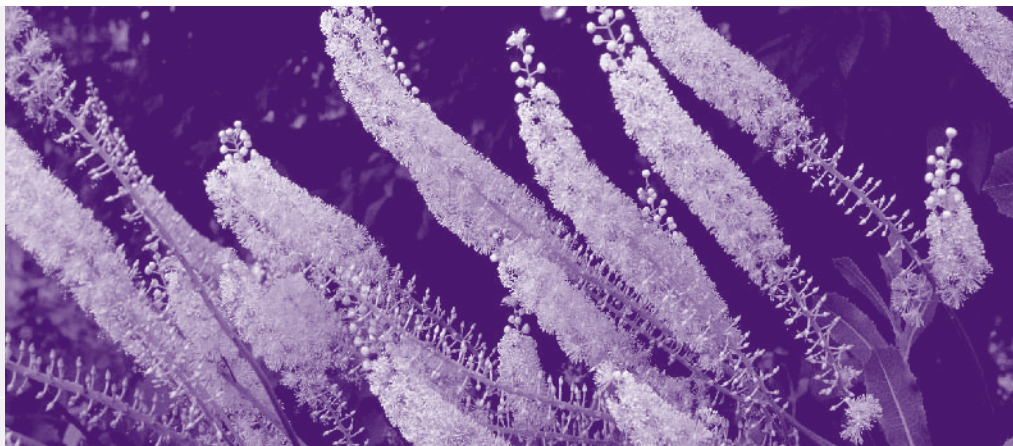
black cohosh, black snakeroot, macrotys, bugbane, bugwort, rattleroot, rattleweed

Latin Names

Actaea racemosa, Cimicifuga racemosa

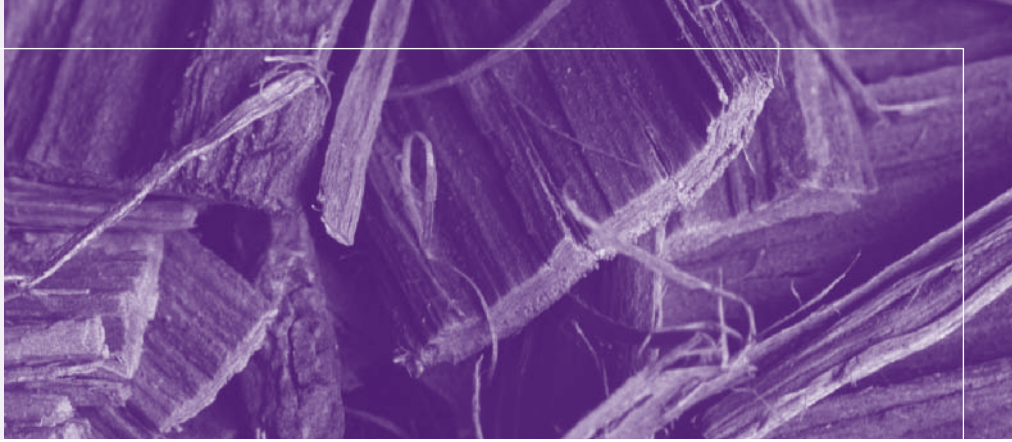
Side Effects and Cautions

- United States Pharmacopeia experts suggest **women should discontinue use of black cohosh and consult a heath care practitioner if they have a liver disorder or develop symptoms of liver trouble,** such as abdominal pain, dark urine, or jaundice. There have been several case reports of hepatitis (inflammation of the liver), as well as liver failure, in women who were taking black cohosh. It is not known if black cohosh was responsible for these problems. Although these cases are very rare and the evidence is not definitive, scientists are concerned about the possible effects of black cohosh on the liver.
- Some people taking black cohosh have experienced side effects such as stomach discomfort, headache, or rash. In general, clinical trials of black cohosh for menopausal symptoms have not found serious side effects.
- Although concerns have been raised about possible interactions between black cohosh and various medications, a 2008 review of studies to date concluded that the risk of such interactions appears to be small.
- It is not clear if black cohosh is safe for women who have had hormone-sensitive conditions such as breast cancer or for pregnant women or nursing mothers.
- Black cohosh should not be confused with blue cohosh *(Caulophyllum thalictroides)*, which has different properties, treatment uses, and side effects than black cohosh. Black cohosh is sometimes used with blue cohosh to stimulate labor, but this therapy has caused adverse effects in newborns, which appear to be due to blue cohosh.



cat's claw

Cat's claw grows wild in many countries of Central and South America, especially in the Amazon rainforest. The use of this woody vine dates back to the Inca civilization.



Common Names

cat's claw, uña de gato

Latin Names

Uncaria tomentosa,
Uncaria guianensis

What It Is Used For

- Cat's claw has been used for centuries in South America to prevent and treat disease.
- It has been used for a variety of health conditions, including viral infections (such as herpes and HIV), Alzheimer's disease, cancer, and arthritis.
- Cat's claw has been used to support the immune system and promote kidney health, as well as to prevent and abort pregnancy.

How It Is Used

The inner bark of cat's claw is used to make liquid extracts, capsules, and teas. Preparations of cat's claw can also be applied to the skin.

What the Science Says

- There is not enough scientific evidence to determine whether cat's claw works for any health condition.
- Small studies in humans have shown a possible benefit of cat's claw in osteoarthritis and rheumatoid arthritis, but no large trials have been done. In laboratory studies, cat's claw stimulates part of the immune system, but it has not been proven to reduce inflammation or boost the immune system in humans.
- The National Institute on Aging funded a study that looked at how cat's claw may affect the brain. Findings may point to new avenues for research in Alzheimer's disease treatment.

Side Effects and Cautions

- Few side effects have been reported for cat's claw when it is taken at recommended dosages. Though rare, side effects may include headaches, dizziness, and vomiting.
- Women who are pregnant or trying to become pregnant should avoid using cat's claw because of its past use for preventing and aborting pregnancy.
- Because cat's claw may stimulate the immune system, it is unclear whether the herb is safe for people with conditions affecting the immune system.
- Cat's claw may interfere with controlling blood pressure during or after surgery.

chamomile

Two types of chamomile are used for health conditions: German chamomile and Roman chamomile. While the two kinds are thought to have similar effects on the body, the German variety is more commonly used in the United States and is the focus of this summary.

Common Names

chamomile, German chamomile

Latin Names

Matricaria recutita, Chamomilla recutita

What It Is Used For

- Chamomile has been widely used in children and adults for thousands of years for a variety of health conditions.
- The herb is often used for sleeplessness; anxiety; and gastrointestinal conditions such as upset stomach, gas, and diarrhea.
- It is used topically for skin conditions and for mouth ulcers resulting from cancer treatment.

How It Is Used

The flowering tops of the chamomile plant are used to make teas, liquid extracts, capsules, or tablets. The herb can also be applied to the skin as a cream or an ointment, or used as a mouth rinse.

What the Science Says

- Chamomile has not been well studied in people so there is little evidence to support its use for any condition.
- Some early studies point to chamomile's possible benefits for certain skin conditions and for mouth ulcers caused by chemotherapy or radiation.
- In combination with other herbs, chamomile may be of some benefit for upset stomach, for diarrhea in children, and for infants with colic.
- NCCAM-funded research on chamomile includes studies of the herb for generalized anxiety disorder and for abdominal pain caused by children's bowel disorders.

Side Effects and Cautions

- There are reports of allergic reactions in people who have eaten or come into contact with chamomile products. Reactions can include skin rashes, throat swelling, shortness of breath, and anaphylaxis (a life-threatening allergic reaction).
- People are more likely to experience allergic reactions to chamomile if they are allergic to related plants in the daisy family, which includes ragweed, chrysanthemums, marigolds, and daisies.

chasteberry

Chasteberry is the fruit of the chaste tree, a small shrub-like tree native to Central Asia and the Mediterranean region. The name is thought to come from a belief that the plant promoted chastity—it is reported that monks in the Middle Ages used chasteberry to decrease sexual desire.

Common Names

chasteberry, chaste-tree berry, vitex, monk's pepper

Latin Name

Vitex agnus-castus

What It Is Used For

- Chasteberry has been used for thousands of years, mostly by women to ease menstrual problems and to stimulate the production of breast milk.
- Chasteberry is still used for menstrual problems, such as premenstrual syndrome, as well as for symptoms of menopause, some types of infertility, and acne.

How It Is Used

The dried ripe chasteberry is used to prepare liquid extracts or solid extracts that are put into capsules and tablets.

What the Science Says

- A few studies of chasteberry for premenstrual syndrome have found a benefit. However, most of these studies were not well designed, so firm conclusions about chasteberry for premenstrual syndrome cannot be drawn.
- Small studies suggest that chasteberry may help with breast pain and some types of infertility, but there is not enough reliable scientific evidence to determine whether chasteberry has any effect on these conditions.
- NCCAM has funded studies on chasteberry. Projects have explored how chasteberry works in the body and how it might affect symptoms of premenstrual syndrome.

Side Effects and Cautions

- Chasteberry has not been associated with serious side effects. However, it can cause gastrointestinal problems, acne-like rashes, and dizziness.
- Chasteberry may affect certain hormone levels. Women who are pregnant or taking birth control pills or who have a hormone-sensitive condition (such as breast cancer) should not use chasteberry.
- Because chasteberry may affect the dopamine system in the brain, people taking dopamine-related medications, such as certain antipsychotic drugs and Parkinson's disease medications, should avoid using chasteberry.

cranberry

Cranberries are the fruit of a native plant of North America. These red berries are used in foods and in herbal products.

Common Names

cranberry, American cranberry, bog cranberry

Latin Name

Vaccinium macrocarpon

What It Is Used For

- Historically, cranberry fruits and leaves were used for a variety of problems, such as wounds, urinary disorders, diarrhea, diabetes, stomach ailments, and liver problems.
- Recently, cranberry products have been used in the hope of preventing or treating urinary tract infections or *Helicobacter pylori (H. pylori)* infections that can lead to stomach ulcers, or to prevent dental plaque. Cranberry has also been reported to have antioxidant and anticancer activity.

How It Is Used

The berries are used to produce beverages and many other food products, as well as dietary supplements in the form of extracts, capsules, or tablets.

What the Science Says

- There is some evidence that cranberry can help to **prevent** urinary tract infections; however, the evidence is not definitive, and more research is needed. Cranberry has not been shown to be effective as a **treatment** for an existing urinary tract infection.
- Research shows that components found in cranberry may prevent bacteria, such as *E. coli*, from clinging to the cells along the walls of the urinary tract and causing infection. There is also preliminary evidence that cranberry may reduce the ability of *H. pylori* bacteria to live in the stomach and cause ulcers.
- Findings from a few laboratory studies suggest that cranberry may have antioxidant properties and may also be able to reduce dental plaque (a cause of gum disease).
- NCCAM is funding studies of cranberry, primarily to better understand its effects on urinary tract infection. The Office of Dietary Supplements and other NIH agencies are also supporting cranberry research; for example, the National Institute on Aging is funding a laboratory study of potential anti-aging effects.

Side Effects and Cautions

- Drinking cranberry juice products appears to be safe, although excessive amounts could cause gastrointestinal upset or diarrhea.
- People who think they have a urinary tract infection should see a health care provider for proper diagnosis and treatment. Cranberry products should not be used to treat infection.
- There are some indications that cranberry should be used cautiously by people who take blood-thinning drugs (such as warfarin), medications that affect the liver, or aspirin.

dandelion

Dandelion greens are edible and are a rich source of vitamin A. Dandelion has been used in many traditional medical systems, including Native American and traditional Arabic medicine.

Common Names

dandelion, lion's tooth, blowball

Latin Name

Taraxacum officinale

What It Is Used For

- Historically, dandelion was most commonly used to treat liver diseases, kidney diseases, and spleen problems. Less commonly, dandelion was used to treat digestive problems and skin conditions.
- Today, dandelion is used by some as a liver or kidney "tonic," as a diuretic, and for minor digestive problems.

How It Is Used

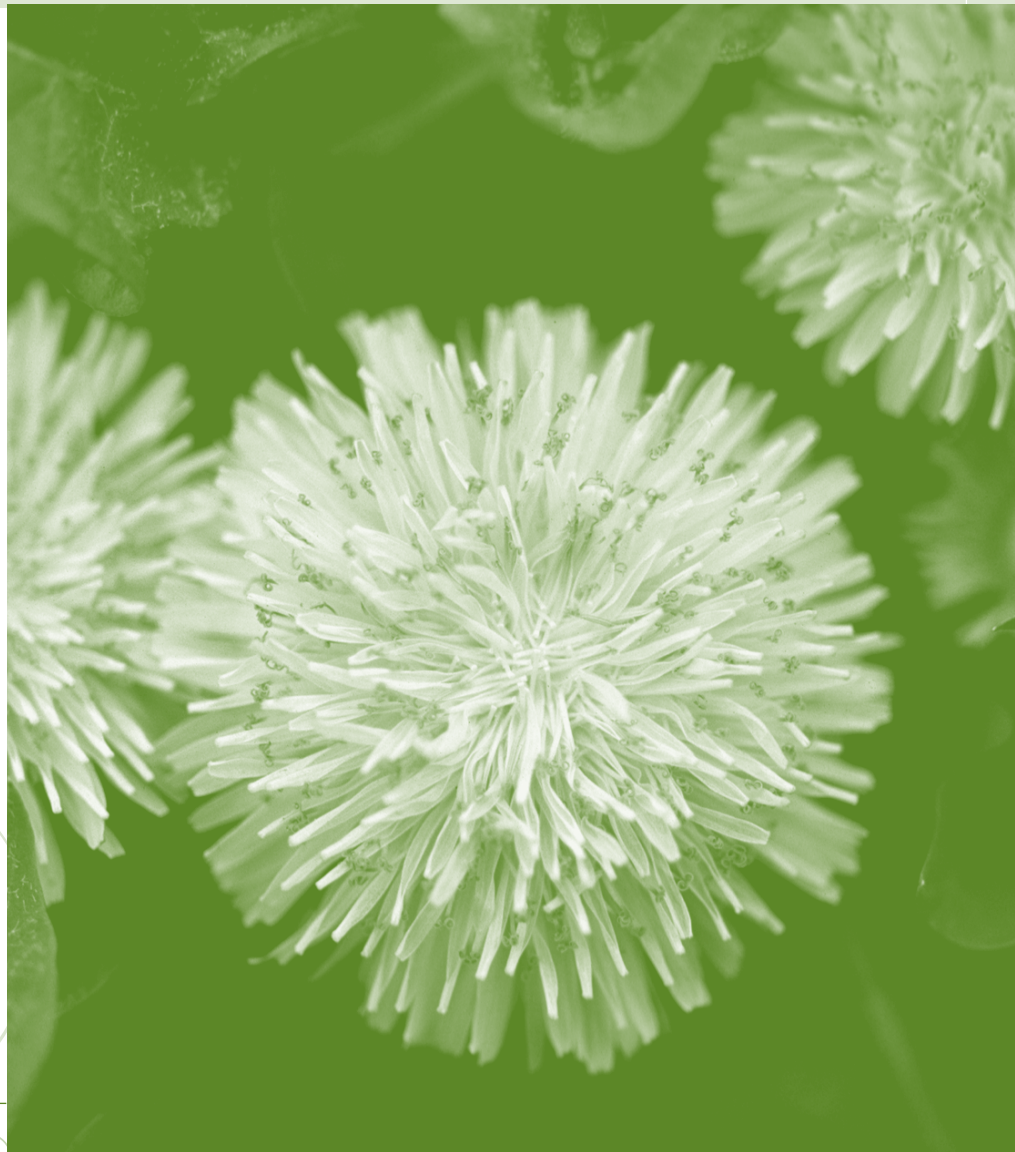
The leaves and roots of the dandelion, or the whole plant, are used fresh or dried in teas, capsules, or extracts. Dandelion leaves are used in salads or as a cooked green, and the flowers are used to make wine.

What the Science Says

There is no compelling scientific evidence for using dandelion as a treatment for any medical condition.

Side Effects and Cautions

- Dandelion use is generally considered safe. However, there have been rare reports of upset stomach and diarrhea, and some people are allergic to the plant.
- People with an inflamed or infected gallbladder, or blocked bile ducts, should avoid using dandelion.



echinacea

There are nine known species of echinacea, all of which are native to the United States and southern Canada. The most commonly used, *Echinacea purpurea*, is believed to be the most potent.

Common Names

echinacea, purple coneflower, coneflower, American coneflower

Latin Names

Echinacea purpurea, Echinacea angustifolia, Echinacea pallida

What It Is Used For

- Echinacea has traditionally been used to treat or prevent colds, flu, and other infections.
- Echinacea is believed to stimulate the immune system to help fight infections.
- Less commonly, echinacea has been used for wounds and skin problems, such as acne or boils.

How It Is Used

The aboveground parts of the plant and roots of echinacea are used fresh or dried to make teas, squeezed (expressed) juice, extracts, or preparations for external use.

What the Science Says

- Study results are mixed on whether echinacea can **prevent** or effectively **treat** upper respiratory tract infections such as the common cold. For example, two NCCAM-funded studies did not find a benefit from echinacea, either as *Echinacea purpurea* fresh-pressed juice for treating colds in children, or as an unrefined mixture of *Echinacea angustifolia* root and *Echinacea purpurea* root and herb in adults. However, other studies have shown that echinacea may be beneficial in treating upper respiratory infections.
- NCCAM is continuing to support the study of echinacea for the treatment of upper respiratory infections. NCCAM is also studying echinacea for its potential effects on the immune system.

Side Effects and Cautions

- When taken by mouth, echinacea usually does not cause side effects. However, some people experience allergic reactions, including rashes, increased asthma, and anaphylaxis (a life-threatening allergic reaction). In clinical trials, gastrointestinal side effects were most common.
- People are more likely to experience allergic reactions to echinacea if they are allergic to related plants in the daisy family, which includes ragweed, chrysanthemums, marigolds, and daisies. Also, people with asthma or atopy (a genetic tendency toward allergic reactions) may be more likely to have an allergic reaction when taking echinacea.

What It Is Used For

- Ephedra has been used for more than 5,000 years in China and India to treat conditions such as colds, fever, flu, headaches, asthma, wheezing, and nasal congestion.
- It has also been an ingredient in many dietary supplements used for weight loss, increased energy, and enhanced athletic performance.

How It Is Used

The dried stems and leaves of the plant are used to create capsules, tablets, extracts, tinctures, and teas.

What the Science Says

- An NCCAM-funded study that analyzed phone calls to poison control centers found a higher rate of side effects from ephedra, compared with other herbal products.
- Other studies and systematic reviews have found an increased risk of heart, psychiatric, and gastrointestinal problems, as well as high blood pressure and stroke, with ephedra use.
- According to the FDA, there is little evidence of ephedra's effectiveness, except for short-term weight loss. However, the increased risk of heart problems and stroke outweighs any benefits.

Side Effects and Cautions

- In 2004, the FDA banned the U.S. sale of dietary supplements containing ephedra. The FDA found that these supplements had an unreasonable risk of injury or illness—particularly cardiovascular complications—and a risk of death. The ban does not apply to traditional Chinese herbal remedies or to products like herbal teas regulated as conventional foods.*
- Between 1995 and 1997, the FDA received more than 900 reports of possible ephedra toxicity. Serious adverse events such as stroke, heart attack, and sudden death were reported in 37 cases.
- Using ephedra may worsen many health conditions such as cardiovascular disease, kidney disease, and diabetes.
- Ephedra may cause seizures in otherwise healthy people as well as in people with seizure disorders.
- Taking ephedra can also result in anxiety, difficulty urinating, dry mouth, headache, heart damage, high blood pressure, irregular heart rhythms, irritation of the stomach, kidney stones, nausea, psychosis, restlessness, sleep problems, and tremors.
- Women who are pregnant or breastfeeding and children should avoid taking ephedra.
- Ephedra use may lead to serious health problems when used with other dietary supplements or medicines.
- Combining ephedra with caffeine increases the risk of potentially serious side effects.

**Products regulated as drugs that contain chemically synthesized ephedrine are not dietary supplements and are not covered by this rule. These include drugs used for the short-term treatment of asthma, bronchitis, and allergic reactions.*

Common Names

ephedra, Chinese ephedra, ma huang

Latin Name

Ephedra sinica

ephedra

Ephedra is an evergreen shrub-like plant native to Central Asia and Mongolia. The principal active ingredient, ephedrine, is a compound that can powerfully stimulate the nervous system and heart.

european elder

European elder is a tree native to Europe and parts of Asia and Africa, and it also grows in the United States. There are several different types of elder, such as American elder, but European elder is the type most often used as a supplement.

Common Names

European elder, black elder, elder, elderberry, elder flower, sambucus

Latin Name

Sambucus nigra

What It Is Used For

- Parts of the elder tree—such as the berries and flowers—have long been used for pain, swelling, infections, coughs, and skin conditions.
- Today, elderberry and elder flower are used for flu, colds, fevers, constipation, and sinus infections.

How It Is Used

The dried flowers (elder flower) and the cooked blue/black berries (elderberry) of the European elder tree are used in teas, liquid extracts, and capsules.

What the Science Says

- Although some small studies show that elderberry may relieve flu symptoms, the evidence is not strong enough to support this use of the berry.
- A few studies have suggested that a product containing elder flower and other herbs can help treat sinus infections when used with antibiotics, but further research is needed to confirm any benefit.
- No reliable information is available on the effectiveness of elderberry and elder flower for other uses.

Side Effects and Cautions

- Uncooked or unripe elderberries are toxic and can cause nausea, vomiting, or severe diarrhea. Only the blue/black berries of elder are edible.
- Because of elder flower's possible diuretic effects, use caution if taking it with drugs that increase urination.

european mistletoe

European mistletoe is a semiparasitic plant that grows on several types of trees in temperate regions worldwide. Where the term "mistletoe" is used in this summary, it refers to European mistletoe. (European mistletoe is different from American mistletoe, which is used as a holiday decoration.)

What It Is Used For

- Mistletoe has been used for centuries in traditional medicine to treat seizures, headaches, and other conditions.
- Mistletoe is used mainly in Europe as a treatment for cancer.

How It Is Used

- The leafy shoots and berries of mistletoe are used to make extracts that can be taken by mouth.
- In Europe, mistletoe extracts are prescription drugs that are given by injection. In the United States, mistletoe by injection is available only in clinical trials.

What the Science Says

- Laboratory studies have found that mistletoe kills cancer cells and stimulates the immune system.
- The use of mistletoe to treat cancer has been studied in Europe in more than 30 clinical trials. Although improvements in survival or quality of life have been reported, almost all of the trials had major weaknesses in their design that raise doubts about the findings. For example, many of the studies had a small number of participants or did not have a control group.
- NCCAM cosponsored a clinical trial of mistletoe, given in combination with the drug gemcitabine, for cancer. The study looked at toxicity, safety, and immune system effects of mistletoe extract when combined with this chemotherapy drug.

Common Names

European mistletoe, mistletoe

Latin Name

Viscum album L.

Side Effects and Cautions

- Raw, unprocessed mistletoe is poisonous. Eating raw, unprocessed European mistletoe or American mistletoe can cause vomiting, seizures, a slowing of the heart rate, and even death. American mistletoe is unsafe for medicinal use.
- In countries where commercial mistletoe is available by injection, such as Germany, those extracts are considered to be generally safe when used according to product directions and under the supervision of a health care provider.
- Injected mistletoe extract may cause itching or redness in the area of the injection. Less commonly, side effects may include more extensive skin reactions, low-grade fevers, or flu-like symptoms. There have been very rare reports of more serious allergic reactions, such as difficulty breathing.
- Because mistletoe has not yet been proven to be a safe and effective cancer treatment, it should not be used outside of clinical trials.

evening primrose oil

Evening primrose is a plant native to North America, but it grows in Europe and parts of the Southern Hemisphere as well. It has yellow flowers that bloom in the evening. Evening primrose oil contains gamma-linolenic acid (GLA), an essential fatty acid. Essential fatty acids are required by the body for growth and development, and must be obtained from the diet.

Common Names

evening primrose oil, EPO

Latin Name

Oenothera biennis

What It Is Used For

- Evening primrose oil has been used since the 1930s for eczema (a condition in which the skin becomes inflamed, itchy, or scaly because of allergies or other irritation).
- More recently it has been used for other conditions involving inflammation, such as rheumatoid arthritis.
- Evening primrose oil is used for conditions affecting women's health, such as breast pain associated with the menstrual cycle, menopausal symptoms, and premenstrual syndrome.
- Other conditions for which evening primrose oil is used include cancer and diabetes.

How It Is Used

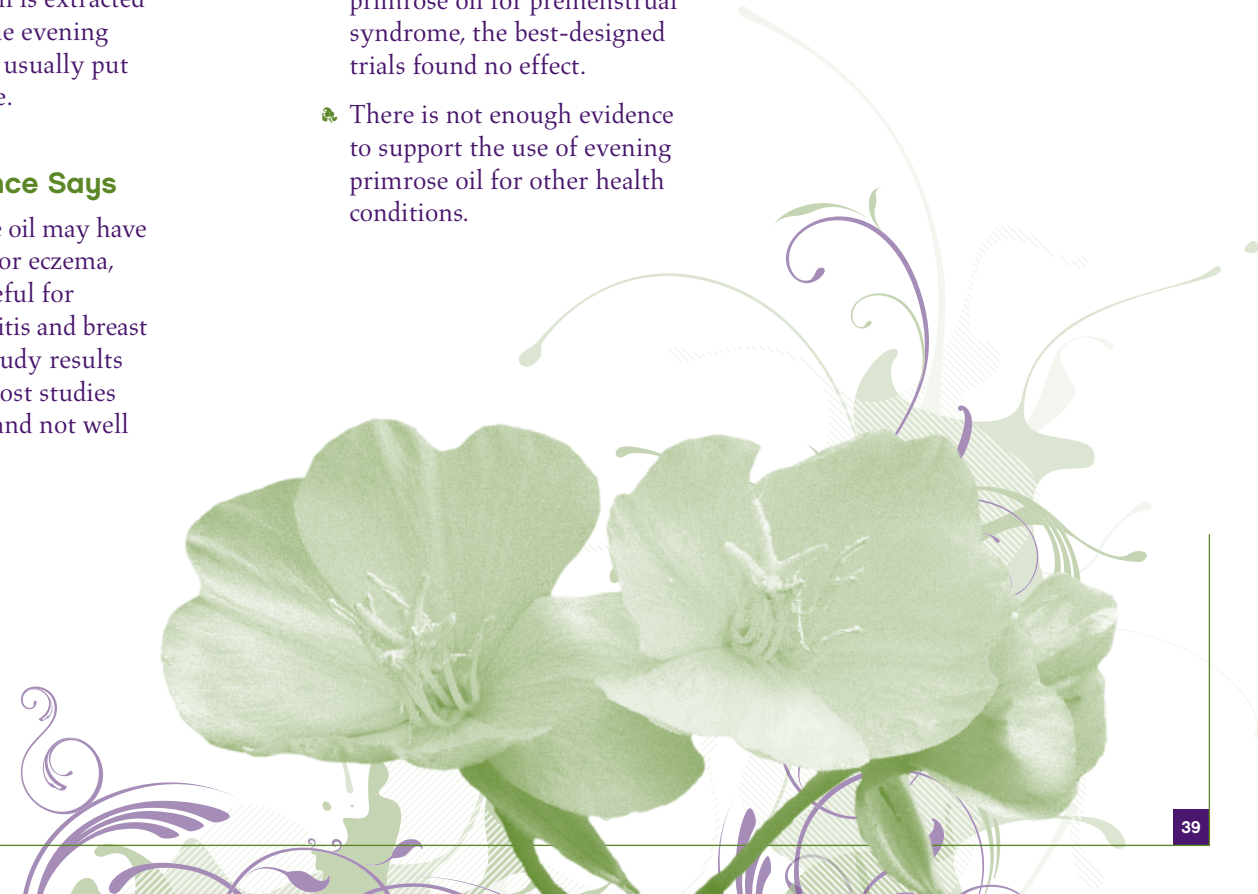
Evening primrose oil is extracted from the seeds of the evening primrose. The oil is usually put into capsules for use.

What the Science Says

- Evening primrose oil may have modest benefits for eczema, and it may be useful for rheumatoid arthritis and breast pain. However, study results are mixed, and most studies have been small and not well designed.
- Evening primrose oil does not appear to affect menopausal symptoms.
- Although some clinical trials have shown a benefit of evening primrose oil for premenstrual syndrome, the best-designed trials found no effect.
- There is not enough evidence to support the use of evening primrose oil for other health conditions.

Side Effects and Cautions

- Evening primrose oil is well tolerated by most people. Mild side effects include gastrointestinal upset and headache.



Fenugreek

The first recorded use of fenugreek is described on an ancient Egyptian papyrus dated to 1500 B.C. Fenugreek seed is commonly used in cooking.

Common Names

fenugreek, fenugreek seed

Latin Name

Trigonella foenum-graecum

What It Is Used For

- Historically, fenugreek was used for a variety of health conditions, including menopausal symptoms and digestive problems. It was also used for inducing childbirth.
- Today, it is used for diabetes and loss of appetite, and to stimulate milk production in breastfeeding women. It is also applied to the skin to treat inflammation.

How It Is Used

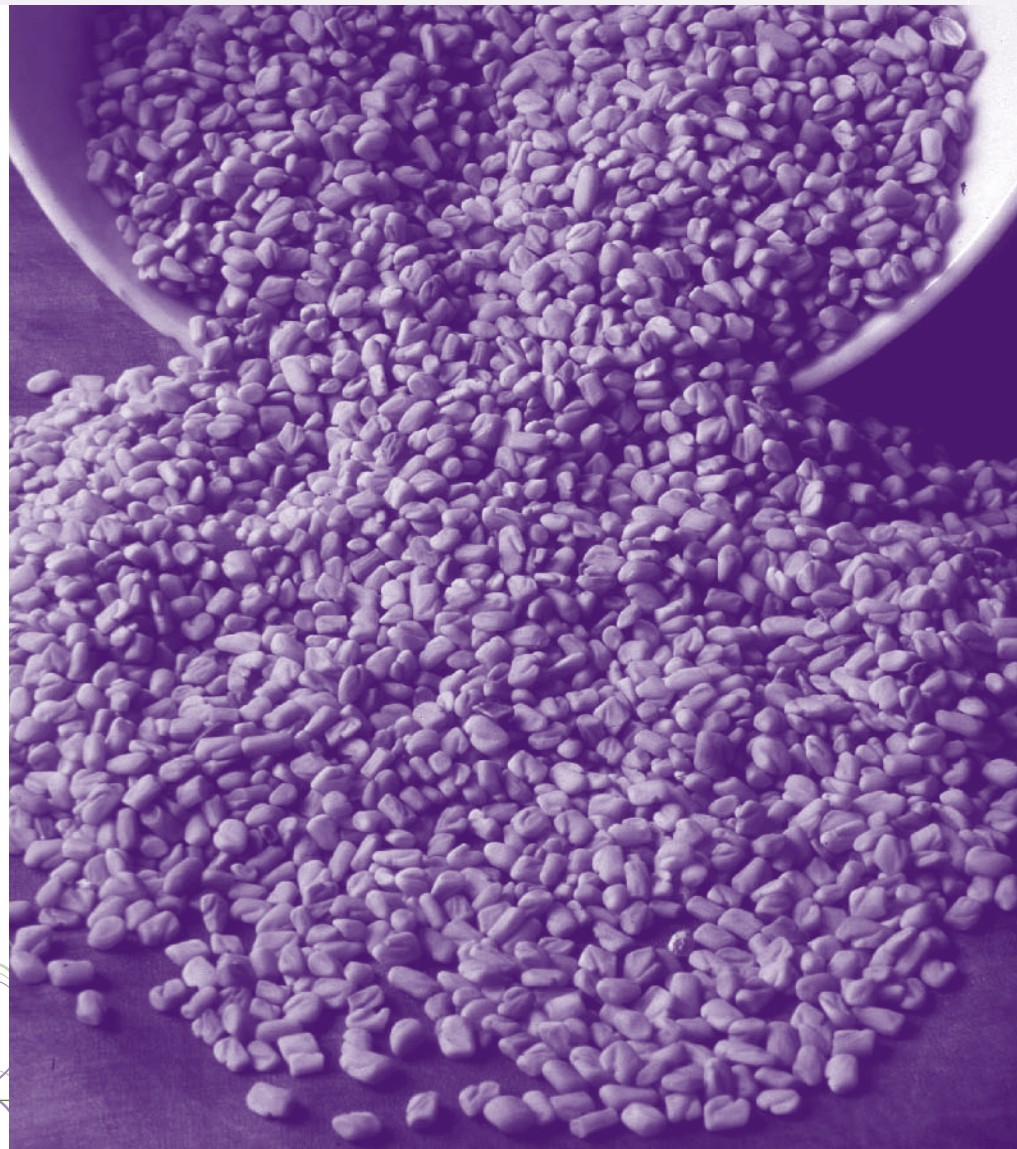
The dried seeds are ground and taken by mouth or used to form a paste that is applied to the skin.

What the Science Says

- A few small studies have found that fenugreek may help lower blood sugar levels in people with diabetes.
- There is not enough scientific evidence to support the use of fenugreek for any other health condition.

Side Effects and Cautions

- Possible side effects of fenugreek when taken by mouth include gas, bloating, and diarrhea. Fenugreek can cause irritation when applied to the skin.
- Given its historical use for inducing childbirth, women should use caution when taking fenugreek during pregnancy.



Feverfew

Originally a plant native to the Balkan mountains of Eastern Europe, feverfew—a short bush with daisy-like flowers—now grows throughout Europe, North America, and South America.

Common Names

feverfew, bachelor's buttons, featherfew

Latin Names

Tanacetum parthenium, Chrysanthemum parthenium

What It Is Used For

- Feverfew has been used for centuries for fevers, headaches, stomach aches, toothaches, insect bites, infertility, and problems with menstruation and with labor during childbirth.
- Recently, feverfew has been used for migraine headaches and rheumatoid arthritis.
- Feverfew has also been used for psoriasis, allergies, asthma, tinnitus (ringing or roaring sounds in the ears), dizziness, nausea, and vomiting.

How It Is Used

- The dried leaves—and sometimes flowers and stems—of feverfew are used to make supplements, including capsules, tablets, and liquid extracts.
- The leaves are sometimes eaten fresh.

What the Science Says

- Some research suggests that feverfew may be helpful in preventing migraine headaches; however, results have been mixed and more evidence is needed from well-designed studies.
- One study found that feverfew did not reduce rheumatoid arthritis symptoms in women whose symptoms did not respond to conventional medicines. It has been suggested that feverfew could help those with milder symptoms.
- There is not enough evidence available to assess whether feverfew is beneficial for other uses.
- NCCAM-funded researchers have studied ways to standardize feverfew; that is, to prepare it in a consistent manner. Standardized preparations can be used in future studies of feverfew for migraines.

Side Effects and Cautions

- No serious side effects have been reported for feverfew. Side effects can include canker sores, swelling and irritation of the lips and tongue, and loss of taste.
- Less common side effects can include nausea, digestive problems, and bloating.
- People who take feverfew for a long time and then stop taking it may have headaches, nervousness, difficulty sleeping, stiff muscles, and joint pain.
- Women who are pregnant should not use feverfew because it may cause the uterus to contract, increasing the risk of miscarriage or premature delivery.
- People can have allergic reactions to feverfew. Those who are allergic to other members of the daisy family (which includes ragweed and chrysanthemums) are more likely to be allergic to feverfew.

Flaxseed and Flaxseed oil

Flaxseed is the seed of the flax plant, which is believed to have originated in Egypt. It grows throughout Canada and the northwestern United States. Flaxseed oil comes from flaxseeds.

Common Names

flaxseed, linseed

Latin Name

Linum usitatissimum

What It Is Used For

- Flaxseed is most commonly used as a laxative.
- Flaxseed is also used for hot flashes and breast pain.
- Flaxseed oil is used for different conditions than flaxseed, including arthritis.
- Both flaxseed and flaxseed oil have been used for high cholesterol levels and in an effort to prevent cancer.

How It Is Used

Whole or crushed flaxseed can be mixed with water or juice and taken by mouth. Flaxseed is also available in powder form. Flaxseed oil is available in liquid and capsule form. Flaxseed contains lignans (phytoestrogens, or plant estrogens), while flaxseed oil preparations lack lignans.

What the Science Says

- Flaxseed contains soluble fiber, like that found in oat bran, and may have a laxative effect.
- Studies of flaxseed preparations to lower cholesterol levels report mixed results. A 2009 review of the clinical research found that cholesterol-lowering effects were more apparent in postmenopausal women and in people with high initial cholesterol concentrations.
- Some studies suggest that alpha-linolenic acid (a substance found in flaxseed and flaxseed oil) may benefit people with heart disease. But not enough reliable data are available to determine whether flaxseed is effective for heart conditions.
- Study results are mixed on whether flaxseed decreases hot flashes.
- Although some population studies suggest that flaxseed might reduce the risk of certain cancers, there is not enough research to support a recommendation for this use.
- NCCAM is funding studies on flaxseed. Recent studies are looking at its potential role in preventing or treating atherosclerosis (hardening of the arteries), breast cancer, and ovarian cysts.

Side Effects and Cautions

- Flaxseed and flaxseed oil supplements seem to be well tolerated. Few side effects have been reported.
- Flaxseed, like any supplemental fiber source, should be taken with plenty of water; otherwise, it could worsen constipation or, in rare cases, even cause intestinal blockage. Both flaxseed and flaxseed oil can cause diarrhea.
- The fiber in flaxseed may lower the body's ability to absorb medications that are taken by mouth. Flaxseed should not be taken at the same time as any conventional oral medications or other dietary supplements.

garlic

Garlic is the edible bulb from a plant in the lily family. It has been used as both a medicine and a spice for thousands of years.

Common Name

garlic

Latin Name

Allium sativum

What It Is Used For

- Garlic's most common uses as a dietary supplement are for high cholesterol, heart disease, and high blood pressure.
- Garlic is also used to prevent certain types of cancer, including stomach and colon cancers.

How It Is Used

Garlic cloves can be eaten raw or cooked. They may also be dried or powdered and used in tablets and capsules. Raw garlic cloves can be used to make oils and liquid extracts.

What the Science Says

- Some evidence indicates that taking garlic can slightly lower blood cholesterol levels; studies have shown positive effects for short-term (1 to 3 months) use. However, an NCCAM-funded study on the safety and effectiveness of three garlic preparations (fresh garlic, dried powdered garlic tablets, and aged garlic extract tablets) for lowering blood cholesterol levels found no effect.
- Preliminary research suggests that taking garlic may slow the development of atherosclerosis (hardening of the arteries), a condition that can lead to heart disease or stroke.
- Evidence suggests that taking garlic may slightly lower blood pressure, particularly in people with high blood pressure.
- Some studies suggest consuming garlic as a regular part of the diet may lower the risk of certain cancers. However, no clinical trials have examined this. A clinical trial on the long-term use of garlic supplements to prevent stomach cancer found no effect.
- Recent NCCAM-funded research includes studies on how garlic interacts with certain drugs; its effects on liver function and the dilation and constriction of blood vessels; and the bioavailability (how well a substance is absorbed by the body) of allicin, the main active compound of garlic.

Side Effects and Cautions

- Garlic appears to be safe for most adults.
- Side effects include breath and body odor, heartburn, upset stomach, and allergic reactions. These side effects are more common with raw garlic.
- Garlic can thin the blood (reduce the ability of blood to clot) in a manner similar to aspirin. This effect may be a problem during or after surgery. Use garlic with caution if you are planning to have surgery or dental work, or if you have a bleeding disorder.
- Garlic has been found to interfere with the effectiveness of saquinavir, a drug used to treat HIV infection. Its effect on other drugs has not been well studied.

What It Is Used For

- Ginger is used in Asian medicine to treat stomach aches, nausea, and diarrhea.
- Many digestive, antinausea, and cold and flu dietary supplements sold in the United States contain ginger extract as an ingredient.
- Ginger is used to alleviate postsurgery nausea as well as nausea caused by motion, chemotherapy, and pregnancy.
- Ginger has been used for rheumatoid arthritis, osteoarthritis, and joint and muscle pain.

How It Is Used

The underground stems of the ginger plant are used in cooking, baking, and for health purposes. Common forms of ginger include fresh or dried root, tablets, capsules, liquid extracts (tinctures), and teas.

What the Science Says

- Studies suggest that the short-term use of ginger can safely relieve pregnancy-related nausea and vomiting.
- Studies are mixed on whether ginger is effective for nausea caused by motion, chemotherapy, or surgery.
- It is unclear whether ginger is effective in treating rheumatoid arthritis, osteoarthritis, or joint and muscle pain.
- NCCAM-funded investigators have looked at whether ginger interacts with drugs, such as those used to suppress the immune system, and ginger's effects on reducing nausea and vomiting. Investigators are also studying:
  - The general safety and effectiveness of ginger's use for health purposes, as well as its active components and effects on inflammation
  - The effects of ginger dietary supplements on joint inflammation, rheumatoid arthritis, and osteoporosis.

Side Effects and Cautions

- Few side effects are linked to ginger when it is taken in small doses.
- Side effects most often reported are gas, bloating, heartburn, and nausea. These effects are most often associated with powdered ginger.

Common Name

ginger

Latin Name

Zingiber officinale

ginger

Ginger is a tropical plant that has green-purple flowers and an aromatic underground stem (called a rhizome). It is commonly used for cooking and medicinal purposes.

ginkgo

The ginkgo tree is one of the oldest types of trees in the world. Ginkgo seeds have been used in traditional Chinese medicine for thousands of years, and cooked seeds are occasionally eaten.

Common Names

ginkgo, *Ginkgo biloba*, fossil tree, maidenhair tree, Japanese silver apricot, baiguo, bai guo ye, kew tree, yinhsing (yin-hsing)

Latin Name

Ginkgo biloba

What It Is Used For

- Ginkgo leaf extract has been used to treat a variety of ailments and conditions, including asthma, bronchitis, fatigue, and tinnitus (ringing or roaring sounds in the ears).
- Today, people use ginkgo leaf extracts hoping to improve memory; to treat or help prevent Alzheimer's disease and other types of dementia; to decrease intermittent claudication (leg pain caused by narrowing arteries); and to treat sexual dysfunction, multiple sclerosis, tinnitus, and other health conditions.

How It Is Used

Extracts are usually taken from the ginkgo leaf and are used to make tablets, capsules, or teas. Occasionally, ginkgo extracts are used in skin products.

What the Science Says

- Numerous studies of ginkgo have been done for a variety of conditions. Among the most widely researched are dementia, memory impairment, intermittent claudication, and tinnitus.
- An NCCAM-funded study of the well-characterized ginkgo product EGb-761 found it ineffective in lowering the overall incidence of dementia and Alzheimer's disease in the elderly. Further analysis of the same data also found ginkgo to be ineffective in slowing cognitive decline, lowering blood pressure, or reducing the incidence of hypertension. In this clinical trial, known as the Ginkgo Evaluation of Memory study, researchers recruited more than 3,000 volunteers age 75 and over who took 240 mg of ginkgo daily. Participants were followed for an average of approximately 6 years.
- Some smaller studies of ginkgo for memory enhancement have had promising results, but a trial sponsored by the National Institute on Aging of more than 200 healthy adults over age 60 found that ginkgo taken for 6 weeks did not improve memory.
- Overall, the evidence on ginkgo for symptoms of intermittent claudication has not yet shown a significant benefit for this condition, although several small studies have found modest improvements. There is conflicting evidence on the efficacy of ginkgo for tinnitus.
- Other NCCAM-funded research includes studies on ginkgo for symptoms of multiple sclerosis, intermittent claudication, cognitive decline, sexual dysfunction due to antidepressants, insulin resistance, and short-term memory loss associated with electroconvulsive therapy for depression.

Side Effects and Cautions

- Side effects of ginkgo may include headache, nausea, gastrointestinal upset, diarrhea, dizziness, or allergic skin reactions. More severe allergic reactions have occasionally been reported.
- There are some data to suggest that ginkgo can increase bleeding risk, so people who take anticoagulant drugs, have bleeding disorders, or have scheduled surgery or dental procedures should use caution and talk to a health care provider if using ginkgo.
- Fresh (raw) ginkgo seeds contain large amounts of a chemical called ginkgotoxin, which can cause serious adverse reactions—even seizures and death. Roasted seeds can also be dangerous. Products made from standardized ginkgo leaf extracts contain little ginkgotoxin and appear to be safe when used orally and appropriately.

goldenseal

Goldenseal is a plant that grows wild in parts of the United States but has become endangered by overharvesting. With natural supplies dwindling, goldenseal is now grown commercially across the United States, especially in the Blue Ridge Mountains.

Common Names

goldenseal, yellow root

Latin Name

Hydrastis canadensis

What It Is Used For

- Historically, Native Americans have used goldenseal for various health conditions such as skin diseases, ulcers, and gonorrhea.
- Now, goldenseal is used for colds and other respiratory tract infections, infectious diarrhea, eye infections, and vaginitis (inflammation or infection of the vagina). It is occasionally used to treat cancer.
- It is also applied to wounds and canker sores, and is used as a mouthwash for sore gums, mouth, and throat.

How It Is Used

- The underground stems or roots of goldenseal are dried and used to make teas, liquid extracts, and solid extracts that may be made into tablets and capsules.
- Goldenseal is often combined with echinacea in preparations that are intended to be used for colds.

What the Science Says

- Few studies have been published on goldenseal's safety and effectiveness, and there is little scientific evidence to support using it for any health problem.
- Clinical studies on a compound found in goldenseal, berberine, suggest that the compound may be beneficial for certain infections—such as those that cause some types of diarrhea, as well as some eye infections. However, goldenseal preparations contain only a small amount of berberine, so it is difficult to extend the evidence about the effectiveness of berberine to goldenseal.
- NCCAM is funding research on goldenseal, including studies of antibacterial mechanisms and potential cholesterol-lowering effects. NCCAM is also funding development of research-grade goldenseal, to facilitate clinical studies.

Side Effects and Cautions

- Goldenseal is considered safe for short-term use in adults at recommended dosages. Rare side effects may include nausea and vomiting.
- There is little information about the safety of high dosages or the long-term use of goldenseal.
- Goldenseal may cause changes in the way the body processes drugs, and could potentially alter the effects of many drugs.
- Other herbs containing berberine, including Chinese goldthread (*Coptis trifolia*) and Oregon grape (*Mahonia aquifolium*), are sometimes substituted for goldenseal. These herbs may have different effects, side effects, and drug interactions than goldenseal.
- Women who are pregnant or breastfeeding should avoid using goldenseal. Berberine, a chemical in goldenseal, can cause or worsen jaundice in newborns and could lead to a life-threatening problem called kernicterus.
- Goldenseal should not be given to infants and young children.

grape seed extract

The grape seeds used to produce grape seed extract are generally obtained from wine manufacturers. The leaves and fruit of the grape have been used medicinally since ancient Greece.

Common Name

grape seed extract

Latin Name

Vitis vinifera

What It Is Used For

- Grape seed extract is used for conditions related to the heart and blood vessels, such as atherosclerosis (hardening of the arteries), high blood pressure, high cholesterol, and poor circulation.
- Other reasons for the use of grape seed extract include complications related to diabetes, such as nerve and eye damage; vision problems, such as macular degeneration (which can cause blindness); and swelling after an injury or surgery.
- Grape seed extract is also used for cancer prevention and wound healing.

How It Is Used

Grape seed extract is prepared from the seed of grapes. It is available in capsule and tablet forms.

What the Science Says

- Studies have found that some compounds of grape seed extract may be effective in relieving symptoms of chronic venous insufficiency (when veins have problems sending blood from the legs back to the heart) and reducing edema (swelling) after an injury or surgery.
- Small randomized trials have found beneficial effects of grape seed extract for diabetic retinopathy (an eye problem caused by diabetes) and for vascular fragility (weakness in small blood vessels). Larger trials are needed to confirm these findings.
- Grape seed extract contains antioxidants, which help prevent cell damage caused by free radicals (highly reactive molecules that can damage cell function). Preliminary studies have shown some beneficial antioxidant effects; however, more research is needed.
- A study funded by the National Cancer Institute (NCI) found that grape seed extract did not reduce the hardening of breast tissue that can occur after radiation therapy for breast cancer.
- NCI is also funding studies to evaluate whether grape seed extract is effective in preventing breast cancer in postmenopausal women and prostate cancer.
- NCCAM is studying whether the action of grape seed extract and its components may benefit the heart or help prevent cognitive decline, Alzheimer's disease, and other brain disorders. Another study is investigating the effects of grape seed extract on colon cancer.

Side Effects and Cautions

- Grape seed extract is generally well tolerated when taken by mouth. It has been used safely for up to 8 weeks in clinical trials.
- Side effects that have been reported include a dry, itchy scalp; dizziness; headache; high blood pressure; hives; indigestion; and nausea.
- The interactions between grape seed extract and medicines or other supplements have not been carefully studied.

green tea

All types of tea (green, black, and oolong) are produced from the *Camellia sinensis* plant using different methods. Fresh leaves from the *Camellia sinensis* plant are steamed to produce green tea.

Common Names

green tea, Chinese tea, Japanese tea

Latin Name

Camellia sinensis

What It Is Used For

- Green tea and green tea extracts, such as its component EGCG, have been used to prevent and treat a variety of cancers, including breast, stomach, and skin cancers.
- Green tea and green tea extracts have also been used for improving mental alertness, aiding in weight loss, lowering cholesterol levels, and protecting skin from sun damage.

How It Is Used

Green tea is usually brewed and drunk as a beverage. Green tea extracts can be taken in capsules and are sometimes used in skin products.

What the Science Says

- Laboratory studies suggest that green tea may help protect against or slow the growth of certain cancers, but studies in people have shown mixed results.
- Some evidence suggests that the use of green tea preparations improves mental alertness, most likely because of its caffeine content. There are not enough reliable data to determine whether green tea can aid in weight loss, lower blood cholesterol levels, or protect the skin from sun damage.
- NCCAM supports studies to learn more about the components in green tea and their effects on conditions such as cancer, diabetes, and heart disease.

Side Effects and Cautions

- Green tea is safe for most adults when used in moderate amounts.
- There have been some case reports of liver problems in people taking concentrated green tea extracts. This problem does not seem to be connected with green tea infusions or beverages. Although these cases are very rare and the evidence is not definitive, experts suggest that concentrated green tea extracts be taken with food and that people should discontinue use and consult a heath care practitioner if they have a liver disorder or develop symptoms of liver trouble, such as abdominal pain, dark urine, or jaundice.
- Green tea and green tea extracts contain caffeine. Caffeine can cause insomnia, anxiety, irritability, upset stomach, nausea, diarrhea, or frequent urination in some people.
- Green tea contains small amounts of vitamin K, which can make anticoagulant drugs, such as warfarin, less effective.

hawthorn

Hawthorn is a spiny, flowering shrub or small tree of the rose family. The species of hawthorn discussed here are native to northern European regions and grow throughout the world.

Common Names

hawthorn, English hawthorn, harthorne, haw, hawthorne

Latin Names

Crataegus laevigata (also known as *Crataegus oxyacantha*), *Crataegus monogyna*

What It Is Used For

- Hawthorn fruit has been used for heart disease since the first century. It has also been used for digestive and kidney problems.
- More recently, hawthorn leaf and flower have been used for heart failure, a weakness of the heart muscle that prevents the heart from pumping enough blood to the rest of the body, which can lead to fatigue and limit physical activities.
- Hawthorn is also used for other heart conditions, including symptoms of coronary artery disease (such as angina).

How It Is Used

The hawthorn leaf and flower are used to make liquid extracts, usually with water and alcohol. Dry extracts can be put into capsules and tablets.

What the Science Says

- There is scientific evidence that hawthorn leaf and flower may be safe and effective for milder forms of heart failure, but study results are conflicting.
- There is not enough scientific evidence to determine whether hawthorn works for other heart problems.
- NCCAM-supported research to date includes a study of the mechanism by which hawthorn may affect heart failure.

Side Effects and Cautions

- Hawthorn is considered safe for most adults when used for short periods of time. Side effects are rare and can include upset stomach, headache, and dizziness.
- Although drug interactions with hawthorn have not been thoroughly studied, there is evidence to suggest that hawthorn may interact with a number of different drugs, including certain heart medications.

hoodia

Hoodia is a flowering, cactus-like plant native to the Kalahari Desert in southern Africa. Its harvest is protected by conservation laws.

Common Names

hoodia, Kalahari cactus, Xhoba

Latin Name

Hoodia gordonii

What It Is Used For

- Kalahari Bushmen have traditionally eaten hoodia stems to reduce their hunger and thirst during long hunts.
- Today, hoodia is marketed as an appetite suppressant for weight loss.

How It Is Used

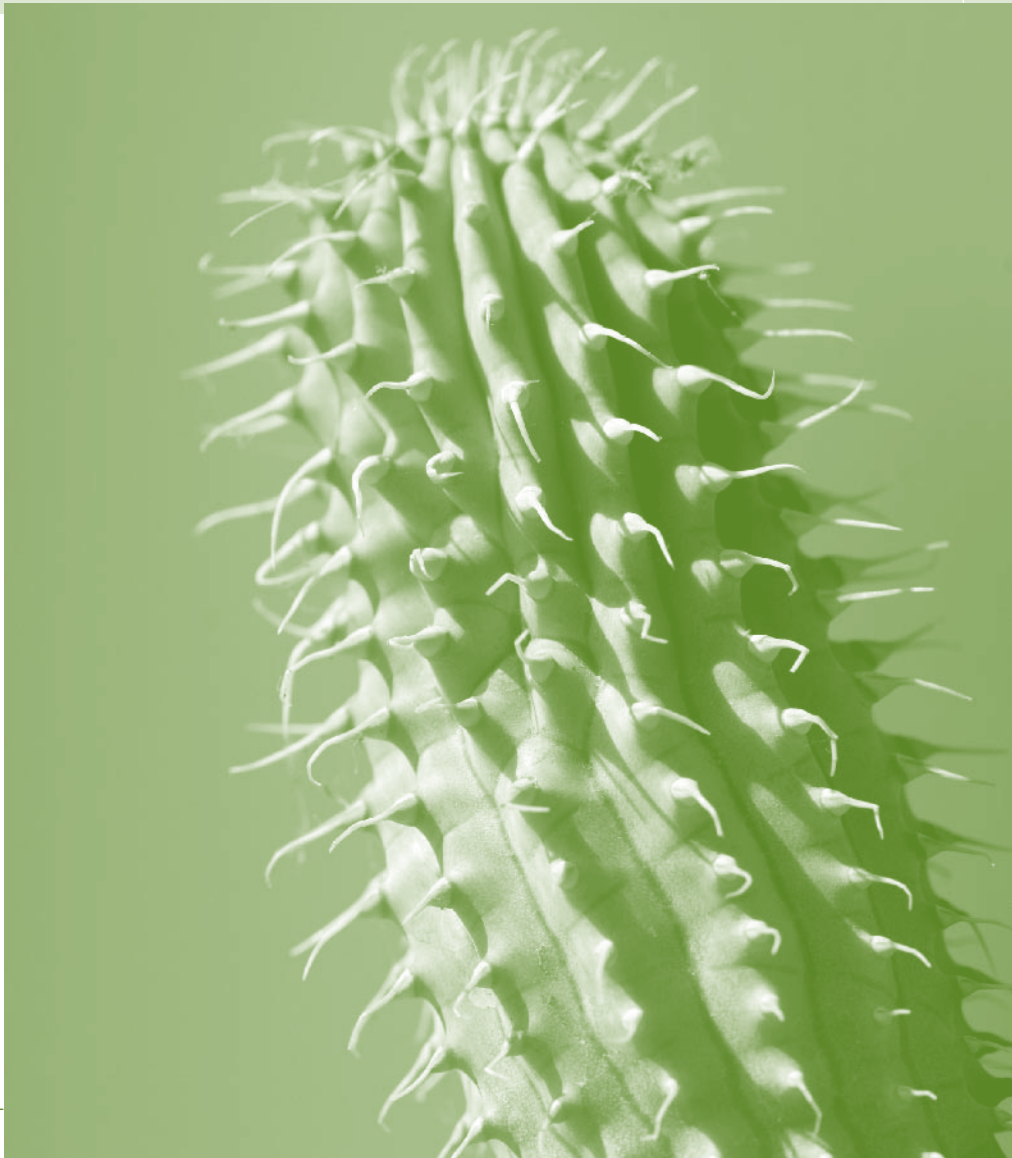
- Dried extracts of hoodia stems and roots are used to make capsules, powders, and chewable tablets. Hoodia can also be used in liquid extracts and teas.
- Hoodia products often contain other herbs or minerals, such as green tea or chromium picolinate.

What the Science Says

There is no reliable scientific evidence to support hoodia's use. No studies of the herb in people have been published.

Side Effects and Cautions

- Hoodia's safety is unknown. Its potential risks, side effects, and interactions with medicines and other supplements have not been studied.
- The quality of hoodia products varies widely. News reports suggest that some products sold as hoodia do not contain any hoodia.



horse chestnut

Horse chestnut trees are native to the Balkan Peninsula (for example, Greece and Bulgaria), but grow throughout the Northern Hemisphere. Although horse chestnut is sometimes called buckeye, it should not be confused with the Ohio or California buckeye trees, which are related but not the same species.

Common Names

horse chestnut, buckeye, Spanish chestnut

Latin Name

Aesculus hippocastanum

What It Is Used For

- For centuries, horse chestnut seeds, leaves, bark, and flowers have been used for a variety of conditions and diseases.
- Horse chestnut seed extract has been used to treat chronic venous insufficiency (a condition in which the veins do not efficiently return blood from the legs to the heart). This condition is associated with varicose veins, pain, ankle swelling, feelings of heaviness, itching, and nighttime leg cramping.
- The seed extract has also been used for hemorrhoids.

How It Is Used

Horse chestnut seed extract standardized to contain 16 to 20 percent aescin (escin), the active ingredient, is the most commonly used form. Topical preparations have also been used.

What the Science Says

- Studies have found that horse chestnut seed extract is beneficial in treating chronic venous insufficiency. There is also preliminary evidence that horse chestnut seed extract may be as effective as wearing compression stockings.
- There is not enough scientific evidence to support the use of horse chestnut seed, leaf, or bark for any other conditions.

Side Effects and Cautions

- Do not use raw or unprocessed horse chestnut seeds, leaves, bark, or flowers. They contain esculin, which is poisonous.
- When properly processed, horse chestnut seed extract contains little or no esculin and is considered generally safe when used for short periods of time. However, the extract can cause some side effects, including itching, nausea, or gastrointestinal upset.

kava

Kava is native to the islands of the South Pacific and is a member of the pepper family. Kava has been used as a ceremonial beverage in the South Pacific for centuries.

Common Names

kava, kava kava, awa, kava pepper

Latin Name

Piper methysticum

What It Is Used For

- Kava has been used to help people fall asleep and fight fatigue, as well as to treat asthma and urinary tract infections.
- Topically, kava has been used as a numbing agent.
- Today, kava is used primarily for anxiety, insomnia, and menopausal symptoms.

How It Is Used

The root and rhizome (underground stem) of kava are used to prepare beverages, extracts, capsules, tablets, and topical solutions.

What the Science Says

- Although scientific studies provide some evidence that kava may be beneficial for the management of anxiety, the FDA has issued a warning that using kava supplements has been linked to a risk of severe liver damage.
- Kava is not a proven therapy for other uses.
- NCCAM-funded studies on kava were suspended after the FDA issued its warning.

Side Effects and Cautions

- Kava has been reported to cause liver damage, including hepatitis and liver failure (which can cause death).
- Kava has been associated with several cases of dystonia (abnormal muscle spasm or involuntary muscle movements). Kava may interact with several drugs, including drugs used for Parkinson's disease.
- Long-term and/or heavy use of kava may result in scaly, yellowed skin.
- Avoid driving and operating heavy machinery while taking kava because the herb has been reported to cause drowsiness.

lavender

Lavender is native to the Mediterranean region. It was used in ancient Egypt as part of the process for mummifying bodies. Lavender's use as a bath additive originated in Persia, Greece, and Rome. The herb's name comes from the Latin *lavare*, which means "to wash."

Common Names

lavender, English lavender, garden lavender

Latin Name

Lavandula angustifolia

What It Is Used For

- Historically, lavender was used as an antiseptic and for mental health purposes.
- Today, the herb is used for conditions such as anxiety, restlessness, insomnia, and depression.
- Lavender is also used for headache, upset stomach, and hair loss.

How It Is Used

- Lavender is most commonly used in aromatherapy, in which the scent of the essential oil from the flowers is inhaled.
- The essential oil can also be diluted with another oil and applied to the skin.
- Dried lavender flowers can be used to make teas or liquid extracts that can be taken by mouth.

What the Science Says

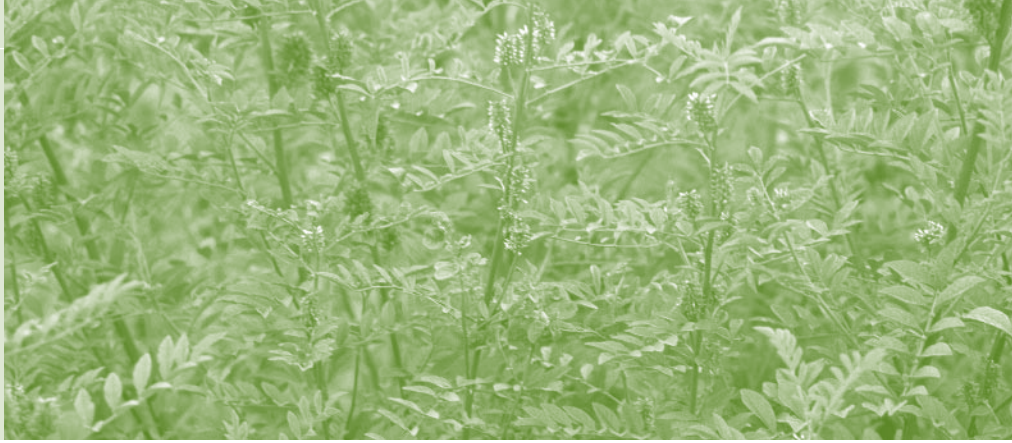
- There is little scientific evidence of lavender's effectiveness for most health uses.
- Small studies on lavender for anxiety show mixed results.
- Some preliminary results indicate that lavender oil, combined with oils from other herbs, may help with hair loss from a condition called alopecia areata.

Side Effects and Cautions

- Topical use of diluted lavender oil or use of lavender as aromatherapy is generally considered safe for most adults. However, applying lavender oil to the skin can cause irritation. There have been reports that topical use can cause breast growth in young boys.
- Lavender oil may be poisonous if taken by mouth.
- When lavender teas and extracts are taken by mouth, they may cause headache, changes in appetite, and constipation.
- Using lavender with sedative medications may increase drowsiness.

licorice root

Most licorice is grown in Greece, Turkey, and Asia. Licorice contains a compound called glycyrrhizin (or glycyrrhizic acid). Licorice has a long history of medicinal use in both Eastern and Western systems of medicine.



Common Names

licorice root, licorice, liquorice, sweet root, gan zao (Chinese licorice)

Latin Names

Glycyrrhiza glabra, Glycyrrhiza uralensis (Chinese licorice)

What It Is Used For

Licorice root has been used as a dietary supplement for stomach ulcers, bronchitis, and sore throat, as well as infections caused by viruses, such as hepatitis.

How It Is Used

- Peeled licorice root is available in dried and powdered forms.
- Licorice root is available as capsules, tablets, and liquid extracts.
- Licorice can be found with glycyrrhizin removed; the product is called DGL (for "deglycyrrhizinated licorice").

What the Science Says

- An injectable form of licorice extract—not available in the United States—has been shown to have beneficial effects against hepatitis C in clinical trials. There are no reliable data on oral forms of licorice for hepatitis C. More research is needed before reaching any conclusions.
- There are not enough reliable data to determine whether licorice is effective for any condition.

Side Effects and Cautions

- In large amounts, licorice containing glycyrrhizin can cause high blood pressure, salt and water retention, and low potassium levels, which could lead to heart problems. DGL products are thought to cause fewer side effects.
- The safety of using licorice as a supplement for more than 4 to 6 weeks has not been thoroughly studied.
- Taking licorice together with diuretics (water pills), corticosteroids, or other medicines that reduce the body's potassium levels could cause dangerously low potassium levels.
- People with heart disease or high blood pressure should be cautious about using licorice.
- When taken in large amounts, licorice can affect the body's levels of a hormone called cortisol and related steroid drugs, such as prednisone.
- Pregnant women should avoid using licorice as a supplement or consuming large amounts of licorice as food, as some research suggests it could increase the risk of preterm labor.

milk thistle

Milk thistle is a flowering herb that is native to the Mediterranean region. It has been used for thousands of years as a remedy for a variety of ailments, especially liver problems.

Common Names

milk thistle, Mary thistle, holy thistle. Milk thistle is sometimes called silymarin, which is actually a mixture of the herb's active components, including silybinin (also called silibinin or silybin).

Latin Name

Silybum marianum

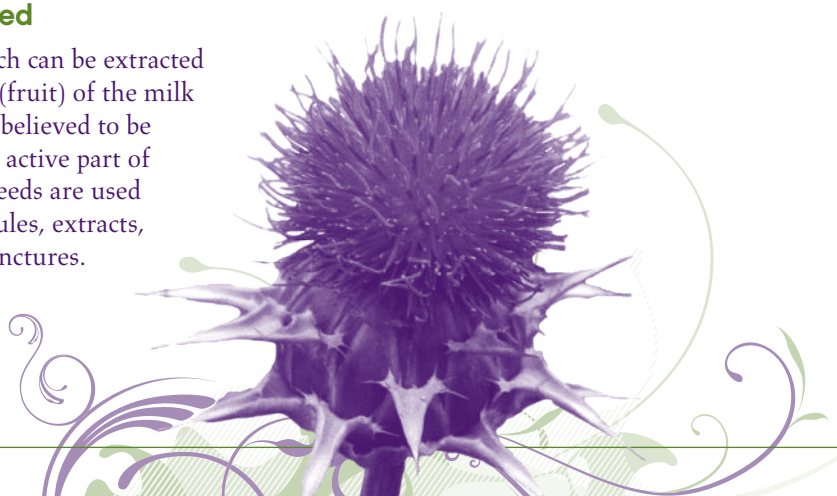
What It Is Used For

Milk thistle is believed to have protective effects on the liver and improve its function. It is typically used to treat liver cirrhosis, chronic hepatitis (liver inflammation), and gallbladder disorders. Treatment claims also include:

- Lowering cholesterol levels
- Reducing insulin resistance in people with type 2 diabetes who also have cirrhosis
- Reducing the growth of cancer cells in breast, cervical, and prostate cancers.

How It Is Used

Silymarin, which can be extracted from the seeds (fruit) of the milk thistle plant, is believed to be the biologically active part of the herb. The seeds are used to prepare capsules, extracts, powders, and tinctures.



What the Science Says

- Laboratory studies suggest that milk thistle may benefit the liver by protecting and promoting the growth of liver cells, fighting oxidation (a chemical process that can damage cells), and inhibiting inflammation. Results from clinical trials of milk thistle for liver diseases have been mixed, and most studies have not been rigorously designed. Reviews of the research have concluded that the efficacy of milk thistle against liver disease has not been established, and additional, high-quality trials are needed.
- The Hepatitis C Antiviral Long-Term Treatment Against Cirrhosis (HALT) study, sponsored by NIH, found that silymarin use by hepatitis C patients was associated with fewer and milder symptoms of liver disease and somewhat better quality of life, but there was no change in virus activity or liver inflammation.
- NCCAM-funded research includes a number of studies on milk thistle for liver disease, such as a phase II trial to better understand the use of milk thistle for chronic hepatitis C. A study cofunded by NCCAM and the National Institute of Diabetes and Digestive and Kidney Diseases is examining the effects of milk thistle on people with chronic hepatitis C who have not responded to conventional antiviral treatment, and people with nonalcoholic steatohepatitis (liver disease that occurs in people who drink little or no alcohol).
- The National Cancer Institute is studying the effectiveness of silymarin for patients with leukemia who experience chemotherapy-related liver damage. The National Institute of Nursing Research is investigating whether milk thistle is an effective treatment for hepatitis C in people with both hepatitis C and HIV.

Side Effects and Cautions

- In clinical trials, milk thistle appears to be well tolerated in recommended doses. Occasionally, people report various gastrointestinal side effects.
- Milk thistle can produce allergic reactions, which tend to be more common among people who are allergic to plants in the same family (for example, ragweed, chrysanthemum, marigold, and daisy).
- Milk thistle may lower blood sugar levels. People with diabetes or hypoglycemia, or people taking drugs or supplements that affect blood sugar levels, should use caution.

noni

Noni is an evergreen shrub or small tree that grows throughout the tropical regions of the Pacific Ocean, from Southeast Asia to Australia and especially in Polynesia. Noni has been traditionally used in Polynesia as a dye.

Common Names

noni, morinda, Indian mulberry, hog apple, canary wood

Latin Name

Morinda citrifolia

What It Is Used For

- Noni has a history of use as a topical preparation for joint pain and skin conditions.
- Today, people drink noni fruit juice as a general health tonic, as well as for cancer and chronic conditions such as cardiovascular disease and diabetes.

How It Is Used

- Traditionally, the leaves and fruit of noni have been used for health purposes.
- Today, the fruit is most commonly combined with other fruits (such as grape) to make juice. Preparations of the fruit and leaves are also available in capsules, tablets, and teas.

What the Science Says

- In laboratory research, noni has shown antioxidant, immune-stimulating, and tumor-fighting properties. These results suggest that noni may warrant further study for conditions such as cancer and cardiovascular disease. However, noni has not been well studied in people for any health condition.
- NCCAM-funded research includes a study on noni for cancer to determine its safety and potential effects on tumors and symptoms, as well as a laboratory study of noni's effects on prostate cancer cells. The National Cancer Institute is funding preliminary research on noni for breast cancer prevention and treatment.

Side Effects and Cautions

- Noni is high in potassium. People who are on potassium-restricted diets because of kidney problems should avoid using noni.
- Several noni juice manufacturers have received warnings from the FDA about making unsubstantiated health claims.
- Although there have been few reported side effects from using noni, its safety has not been adequately studied.
- There have been reports of liver damage from using noni. It should be avoided if you have liver disease because it contains compounds that may make your disease worse.

peppermint oil

The herb peppermint, a cross between two types of mint (water mint and spearmint), grows throughout Europe and North America. Peppermint is often used to flavor foods, and the leaves can be used fresh or dried in teas.

Common Name

peppermint oil

Latin Name

Mentha x piperita

What It Is Used For

- Peppermint oil has been used for a variety of health conditions, including nausea, indigestion, and cold symptoms.
- Peppermint oil is also used for headaches, muscle and nerve pain, and stomach and bowel conditions such as irritable bowel syndrome.

How It Is Used

Essential oil of peppermint can be taken in very small doses in capsule or liquid forms. The essential oil can also be diluted with another oil and applied to the skin.

What the Science Says

- Results from several studies suggest that peppermint oil may improve symptoms of irritable bowel syndrome.
- A few studies have found that peppermint oil, in combination with caraway oil, may help relieve indigestion, but this evidence is preliminary.
- Although there are some promising results, there is no clear-cut evidence to support the use of peppermint oil for other health conditions.

Side Effects and Cautions

- Peppermint oil appears to be safe for most adults when used in small doses. Possible side effects include allergic reactions and heartburn.
- Capsules containing peppermint oil are often coated to reduce the likelihood of heartburn. If they are taken at the same time as medicines such as antacids, this coating can break down more quickly and increase the risk of heartburn.

red clover

Like peas and beans, red clover belongs to the family of plants called legumes. Red clover contains phytoestrogens—compounds similar to the female hormone estrogen.

Common Names

red clover, cow clover, meadow clover, wild clover

Latin Name

Trifolium pratense

What It Is Used For

- Historically, red clover has been used for cancer and respiratory problems, such as whooping cough, asthma, and bronchitis.
- Current uses of red clover are for menopausal symptoms, breast pain associated with menstrual cycles, high cholesterol, osteoporosis, and symptoms of prostate enlargement.

How It Is Used

The flowering tops of the red clover plant are used to prepare extracts available in tablets and capsules, as well as in teas and liquid forms.

What the Science Says

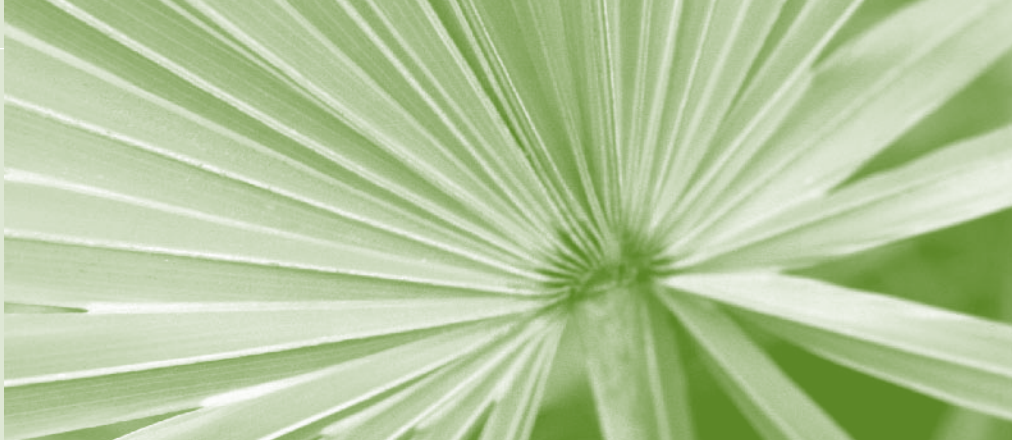
- Several small studies of red clover for menopausal symptoms had mixed results; however, most of these studies had design flaws. A large clinical trial and several reviews of the research literature concluded that red clover had no significant beneficial effects on menopausal symptoms.
- There is not enough scientific evidence to determine whether red clover is effective for any other health conditions.
- NCCAM is studying red clover to learn more about its active components and how they might work in the body, including how red clover isoflavones may affect human prostate cells and the safety and effectiveness of red clover for menopausal symptoms.

Side Effects and Cautions

- Red clover seems to be safe for most adults when used for short periods of time. No serious adverse effects have been reported.
- Because red clover contains estrogen-like compounds, there is a possibility that its long-term use would increase the risk of women developing cancer of the lining of the uterus. However, studies to date have been too brief (less than 6 months) to evaluate whether red clover has estrogen-like effects on the uterus.
- It is unclear whether red clover is safe for women who are pregnant or breastfeeding, or who have breast cancer or other hormone-sensitive cancers.

saw palmetto

Saw palmetto is a small palm tree native to the eastern United States. Its fruit was used medicinally by the Seminole Tribe of Florida.



Common Names

saw palmetto, American dwarf palm tree, cabbage palm

Latin Names

Serenoa repens, Sabal serrulata

What It Is Used For

- Saw palmetto is used mainly for urinary symptoms associated with an enlarged prostate gland (also called benign prostatic hyperplasia, or BPH).
- Saw palmetto is also used for other conditions, including chronic pelvic pain, bladder disorders, decreased sex drive, hair loss, hormone imbalances, and prostate cancer.

How It Is Used

The ripe fruit of saw palmetto is used in several forms, including ground and dried fruit or whole berries. It is available as liquid extracts, tablets, capsules, and as an infusion or a tea.

What the Science Says

- Several small studies suggest that saw palmetto may be effective for treating BPH symptoms. However, a 2009 review of the research concluded that saw palmetto has not been shown to be more effective than placebo for this use.
- In 2006, a large study of 225 men with moderate-to-severe BPH found no improvement with 320 mg saw palmetto daily for 1 year versus placebo. NCCAM cofunded the study with the National Institute of Diabetes and Digestive and Kidney Diseases.
- There is not enough scientific evidence to support the use of saw palmetto for reducing the size of an enlarged prostate or for any other conditions.
- Saw palmetto does not appear to affect readings of prostate-specific antigen (PSA) levels. PSA is protein produced by cells in the prostate. The PSA test is used to screen for prostate cancer and to monitor patients who have had prostate cancer.
- An NCCAM-funded study is looking at the effects of saw palmetto extract on prostate cancer cells.

Side Effects and Cautions

- Saw palmetto appears to be well tolerated by most users. It may cause mild side effects, including stomach discomfort.

soy

Soy, a plant in the pea family, has been common in Asian diets for thousands of years. It is found in modern American diets as a food or food additive. Soybeans, the high-protein seeds of the soy plant, contain isoflavones—compounds similar to the female hormone estrogen. The following information highlights what is known about soy when used by adults for health purposes.

Common Name

soy

Latin Name

Glycine max

What It Is Used For

People use soy products to prevent or treat a variety of health conditions, including high cholesterol levels, menopausal symptoms such as hot flashes, osteoporosis, memory problems, high blood pressure, breast cancer, and prostate cancer.

How It Is Used

- Soy is available in dietary supplements, in forms such as tablets and capsules. Soy supplements may contain isoflavones or soy protein or both.
- Soybeans can be cooked and eaten or used to make tofu, soy milk, and other foods. Also, soy is sometimes used as an additive in various processed foods, including baked goods, cheese, and pasta.

What the Science Says

- Research suggests that daily intake of soy protein may slightly lower levels of LDL ("bad") cholesterol.
- Some studies suggest that soy isoflavone supplements may reduce hot flashes in women after menopause. However, the results have been inconsistent.
- There is not enough scientific evidence to determine whether soy supplements are effective for any other health uses.
- NCCAM supports studies on soy, including its effects in cardiovascular disease and breast cancer, and on menopause-related symptoms and bone loss.

Side Effects and Cautions

- Soy is considered safe for most people when used as a food or when taken for short periods as a dietary supplement.
- Minor stomach and bowel problems such as nausea, bloating, and constipation are possible.
- Allergic reactions such as breathing problems and rash can occur in rare cases.
- The safety of long-term use of soy isoflavones has not been established. Evidence is mixed on whether using isoflavone supplements over time can increase the risk of endometrial hyperplasia (a thickening of the lining of the uterus that can lead to cancer). Studies show no effect of dietary soy on risk for endometrial hyperplasia.
- Soy's possible role in breast cancer risk is uncertain. Until more is known about soy's effect on estrogen levels, women who have or who are at increased risk of developing breast cancer or other hormone-sensitive conditions (such as ovarian or uterine cancer) should be particularly careful about using soy and should discuss it with their health care providers.

st. john's wort

St. John's wort is a plant with yellow flowers whose medicinal uses were first recorded in ancient Greece. The name St. John's wort apparently refers to John the Baptist, as the plant blooms around the time of the feast of St. John the Baptist in late June.

Common Names

St. John's wort, hypericum, Klamath weed, goatweed

Latin Name

Hypericum perforatum

What It Is Used For

- St. John's wort has been used for centuries to treat mental disorders and nerve pain.
- St. John's wort has also been used as a sedative and a treatment for malaria, as well as a balm for wounds, burns, and insect bites.
- Today, St. John's wort is used by some for depression, anxiety, and/or sleep disorders.

How It Is Used

The flowering tops of St. John's wort are used to prepare teas, tablets, and capsules containing concentrated extracts. Liquid extracts and topical preparations are also used.

What the Science Says

- There is scientific evidence that St. John's wort may be useful for short-term treatment of mild to moderate depression. Although some studies have reported benefits for more severe depression, others have not; for example, a large study sponsored by NCCAM found that the herb was no more effective than placebo in treating major depression of moderate severity.
- NCCAM is studying the use of St. John's wort in a wider spectrum of mood disorders, including minor depression.

Side Effects and Cautions

- St. John's wort may cause increased sensitivity to sunlight. Other side effects can include anxiety, dry mouth, dizziness, gastrointestinal symptoms, fatigue, headache, or sexual dysfunction.
- Research has shown that St. John's wort interacts with many medications in ways that can interfere with their intended effects. Examples of medications that can be affected include:
  - Antidepressants
  - Birth control pills
  - Cyclosporine, which prevents the body from rejecting transplanted organs
  - Digoxin, a heart medication
  - Indinavir and possibly other drugs used to control HIV infection
  - Irinotecan and possibly other drugs used to treat cancer
  - Seizure-control drugs, such as dilantin and phenobarbital
  - Warfarin and related anticoagulants.
- Taking St. John's wort with certain antidepressants may lead to increased serotonin-related side effects, which may be potentially serious.
- St. John's wort is not a proven therapy for depression. If depression is not adequately treated, it can become severe. Anyone who may have depression should see a health care provider. There are effective proven therapies available.

thunder god vine

Thunder god vine is a perennial vine native to China, Japan, and Korea. It has been used in China for health purposes for more than 400 years.

What It Is Used For

- Thunder god vine has been used in traditional Chinese medicine for conditions involving inflammation or overactivity of the immune system.
- Orally, thunder god vine is taken for excessive menstrual periods or for autoimmune diseases, including rheumatoid arthritis, multiple sclerosis, and lupus.
- Thunder god vine preparations are also applied to the skin for rheumatoid arthritis.

How It Is Used

Extracts are prepared from the skinned root of thunder god vine.

What the Science Says

- Laboratory findings suggest that thunder god vine may fight inflammation, suppress the immune system, and have anticancer effects.
- Although early evidence is promising, there have been few high-quality studies of thunder god vine in people. Results from a large study funded by the National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS), which compared an extract of thunder god vine root with a conventional medicine (sulfasalazine) for rheumatoid arthritis, found that participants' symptoms (e.g., joint pain and swelling, inflammation) improved more significantly with thunder god vine than with sulfasalazine.
- A small study on thunder god vine applied to the skin also found benefits for rheumatoid arthritis symptoms.
- There is not enough scientific evidence to assess thunder god vine's use for any other health conditions.

Common Names

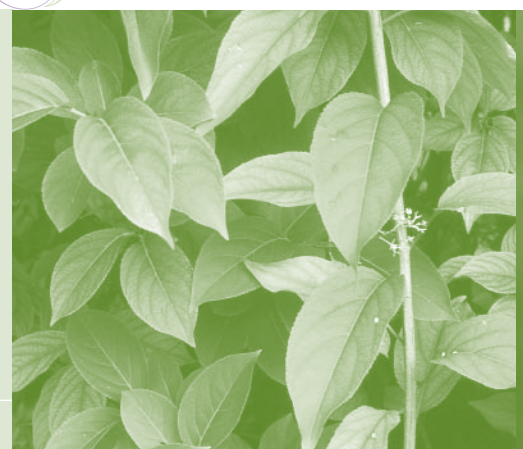
thunder god vine,
lei gong teng

Latin Name

Tripterygium wilfordii

Side Effects and Cautions

- Thunder god vine can cause severe side effects and can be poisonous if it is not carefully extracted from the skinned root. Other parts of the plant—including the leaves, flowers, and skin of the root—are highly poisonous and can cause death.
- A number participants in the NIAMS study experienced gastrointestinal adverse effects such as diarrhea, indigestion, and nausea, as well as upper respiratory tract infections. (The rate of adverse effects was similar in both the thunder god vine and sulfasalazine groups.)
- Thunder god vine can also cause hair loss, headache, menstrual changes, and skin rash.
- There are no consistent, high-quality thunder god vine products being manufactured in the United States. Preparations of thunder god vine made outside the United States (for example, in China) can sometimes be obtained, but it is not possible to verify whether they are safe and effective.
- Thunder god vine has been found to decrease bone mineral density in women who take the herb for 5 years or longer. This side effect may be of particular concern to women who have osteoporosis or are at risk for the condition.
- Thunder god vine contains chemicals that might decrease male fertility by changing sperm.



turmeric

Turmeric, a shrub related to ginger, is grown throughout India, other parts of Asia, and Africa. Known for its warm, bitter taste and golden color, turmeric is commonly used in fabric dyes and foods such as curry powders, mustards, and cheeses. It should not be confused with Javanese turmeric.

Common Names

turmeric, turmeric root, Indian saffron

Latin Name

Curcuma longa

What It Is Used For

- In traditional Chinese medicine and Ayurvedic medicine, turmeric has been used to aid digestion and liver function, relieve arthritis pain, and regulate menstruation.
- Turmeric has also been applied directly to the skin for eczema and wound healing.
- Today, turmeric is used for conditions such as heartburn, stomach ulcers, and gallstones. It is also used to reduce inflammation, as well as to prevent and treat cancer.

How It Is Used

Turmeric's finger-like underground stems (rhizomes) are dried and taken by mouth as a powder or in capsules, teas, or liquid extracts. Turmeric can also be made into a paste and used on the skin.

What the Science Says

- There is little reliable evidence to support the use of turmeric for any health condition because few clinical trials have been conducted.
- Preliminary findings from animal and laboratory studies suggest that a chemical found in turmeric—called curcumin—may have anti-inflammatory, anticancer, and antioxidant properties, but these findings have not been confirmed in people.
- NCCAM-funded investigators have studied the active chemicals in turmeric and their effects—particularly anti-inflammatory effects—in human cells to better understand how turmeric might be used for health purposes. NCCAM is also funding basic research studies on the potential role of turmeric in preventing acute respiratory distress syndrome, liver cancer, and post-menopausal osteoporosis.

Side Effects and Cautions

- Turmeric is considered safe for most adults.
- High doses or long-term use of turmeric may cause indigestion, nausea, or diarrhea.
- In animals, high doses of turmeric have caused liver problems. No cases of liver problems have been reported in people.
- People with gallbladder disease should avoid using turmeric as a dietary supplement, as it may worsen the condition.

valerian

Valerian is a plant native to Europe and Asia; it is also found in North America. Valerian has been used as a medicinal herb since at least the time of ancient Greece and Rome. Its therapeutic uses were described by Hippocrates, and in the 2nd century, Galen prescribed valerian for insomnia.

Common Names

valerian, all-heal, garden heliotrope

Latin Name

Valeriana officinalis

What It Is Used For

- Valerian has long been used for sleep disorders and anxiety.
- Valerian has also been used for other conditions, such as headaches, depression, irregular heartbeat, and trembling.

How It Is Used

The roots and rhizomes (underground stems) of valerian are typically used to make supplements, including capsules, tablets, and liquid extracts, as well as teas.

What the Science Says

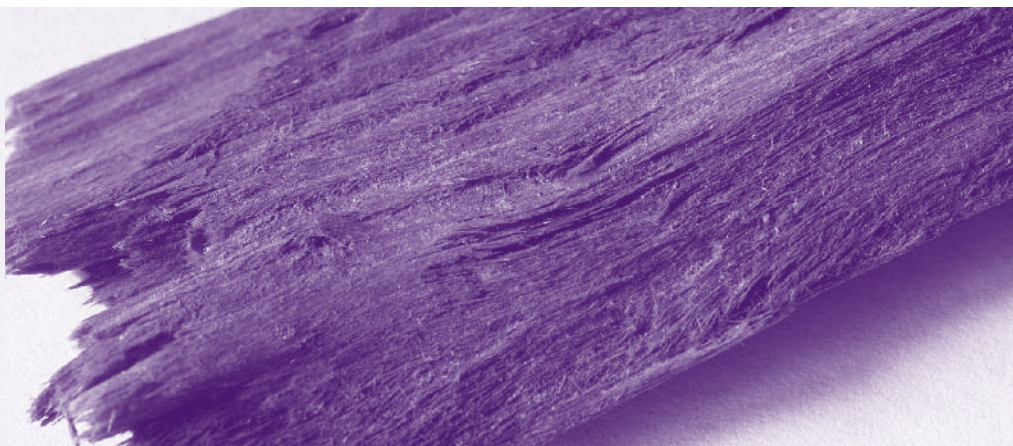
- Research suggests that valerian may be helpful for insomnia, but there is not enough evidence from well-designed studies to confirm this.
- There is not enough scientific evidence to determine whether valerian works for other conditions, such as anxiety or depression.
- NCCAM-funded research on valerian includes studies on the herb's effects on sleep in healthy older adults and in people with Parkinson's disease. NCCAM-funded researchers are also studying the potential of valerian and other herbal products to relieve menopausal symptoms.

Side Effects and Cautions

- Studies suggest that valerian is generally safe to use for short periods of time (for example, 4 to 6 weeks).
- No information is available about the long-term safety of valerian.
- Valerian can cause mild side effects, such as headaches, dizziness, upset stomach, and tiredness the morning after its use.

yohimbe

The yohimbe tree is a tall evergreen that is native to western Africa. The bark of the tree contains a chemical called yohimbine. The amount of yohimbine in dietary supplements may vary; some yohimbe products have been found to contain very little yohimbine. A drug form of yohimbine—yohimbine hydrochloride—has been studied for erectile dysfunction.



What It Is Used For

- Yohimbe bark has traditionally been used in Africa as an aphrodisiac (to increase sexual desire).
- The herb is currently used for sexual dysfunction, including erectile dysfunction in men.

How It Is Used

As a dietary supplement, the dried bark of the yohimbe tree is used as a tea and taken by mouth. An extract of the bark is also put into capsules and tablets.

Common Names

yohimbe, yohimbe bark

Latin Name

Pausinystalia yohimbe

What the Science Says

It is not known whether yohimbe is effective for any health conditions because clinical trials have not been conducted on the bark or its extract.

Side Effects and Cautions

- Yohimbe has been associated with high blood pressure, increased heart rate, headache, anxiety, dizziness, nausea, vomiting, tremors, and sleeplessness. Yohimbe can be dangerous if taken in large doses or for long periods of time.
- People should not combine yohimbe with MAO inhibitors as effects may be additive. Yohimbe should be used with caution when taken with medicines for high blood pressure, tricyclic antidepressants, or phenothiazines (a group of medicines used mostly for mental health conditions such as schizophrenia).
- People with kidney problems and people with psychiatric conditions should not use yohimbe.
- Women who are pregnant or breastfeeding should not take yohimbe.

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